

BOOK NO. 4

SET NO. _____

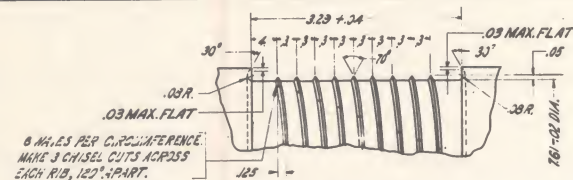
STUDY GUIDE

ORDNANCE

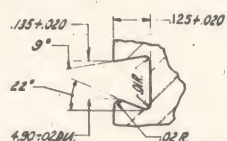
AMMUNITION DRAWINGS

75-4-87 TO 75-20-94

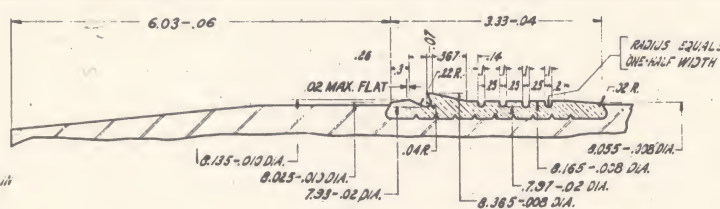
TO BE USED BY AMMUNITION INSPECTORS SCHOOL, SAVANNA ORDNANCE DEPOT



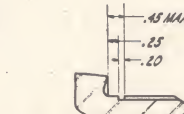
DETAIL OF BAND SEAT



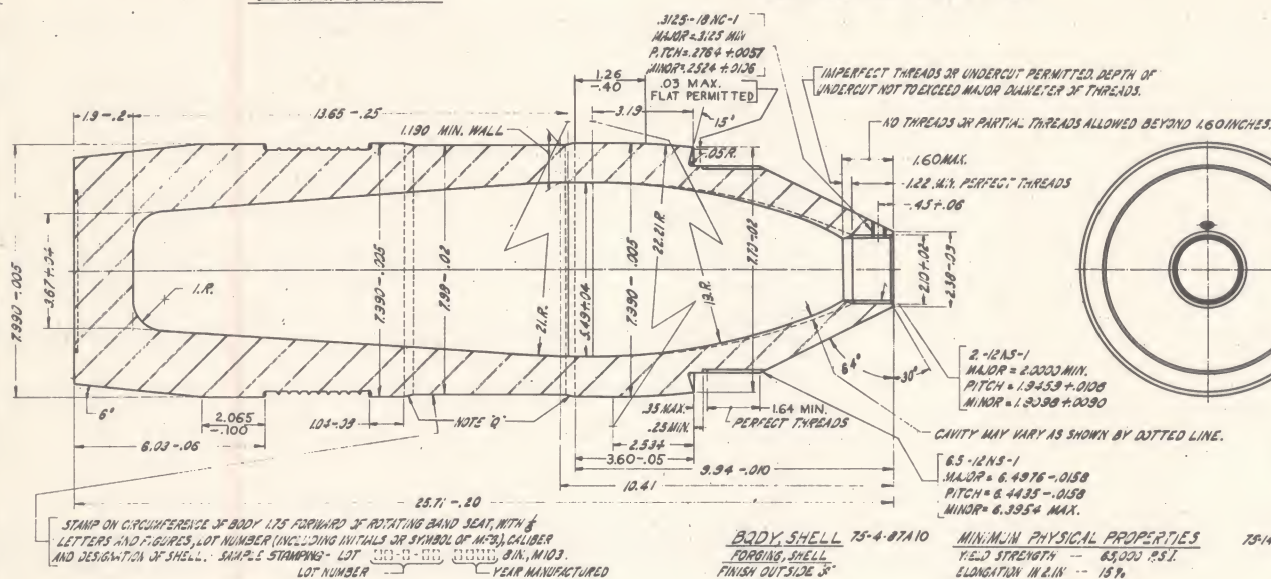
DETAIL OF BASE COVER GROOVE
NOTE: BASE COVER GROOVE NOT TO BE MACHINED IN SHELL IF BASE COVER 75-4-87E IS USED.



BAND, ROTATING
GILDING METAL
FINISH 'S'

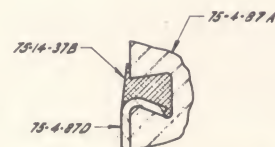


ALTERNATIVE VIEW SHOWING
THREAD UNDERCUT

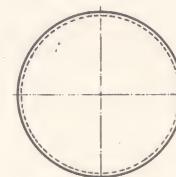


BODY, SHELL 75-4-87A10
FORGING, SHELL
FINISH OUTSIDE 'S'

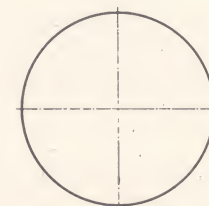
MINIMUM PHYSICAL PROPERTIES
TENSILE STRENGTH -- 65,000 P.S.I.
ELONGATION IN 2 IN -- 15%
REDUCTION IN AREA -- 30%



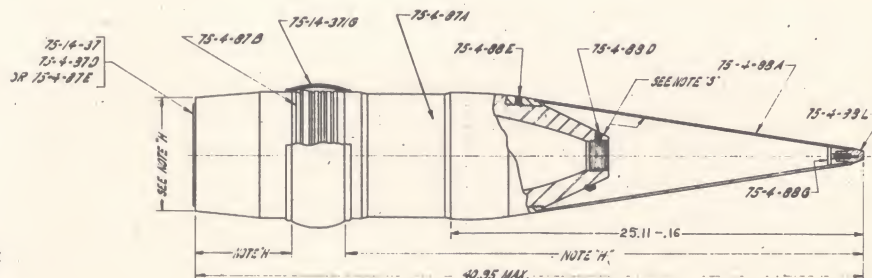
DETAIL OF BASE COVER ASSEMBLY
(ALTERNATIVE)



COVER, BASE (ALTERNATIVE) 75-4-87D10
STEEL, WD 1010
BRIGHT, SOFT ANNEALED 3



COVER, BASE (ALTERNATIVE) 75-4-87E7
STEEL, WD 1010 OR WD 1020
SEE NOTE 'T'



METAL PARTS ASSEMBLY 75-4-87C10

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|--------------------------------------|----------------|
| 1 | METAL PARTS ASSEMBLY | 75-4-87 |
| 2 | LIST OF PARTS AND LIST OF SPECS. | 75-4-87A |
| 3 | DETAILS | 75-4-88 |
| 4 | BLANKS, ROTATING BAND, TYPE BC | 75-4-41 (b) |
| 5 | FORGING, FOR SHELL, H.E. 8 IN., M103 | 75-20-87 (a) |
| 6 | | |
| 7 | BASE COVERS FOR PROJECTILES | 75-14-37 |
| 8 | GRIMMET ASSEMBLY | 75-14-371 |
| 9 | BOX, PACKING | 76-2-79 |
| 10 | | |

(a) INCLUDES SET SCREW.
(b) DESIGN SHOWN NOT MANDATORY.

| DESIGN DATA | |
|---------------------------|------------|
| PART | POUNDS |
| BODY, SHELL | 195.25 (2) |
| BAND, ROTATING | 6.78 |
| COVER, BASE | .62 |
| HEAD, CLOSING | .17 |
| OGIVE ASSEMBLY | 14.33 (2) |
| TUBE | .46 |
| CHARGE (CAST TNT) | 20.90 |
| FUSE, P.D., M. 31, MOD. 1 | 1.84 |
| CUP, FUSE WELL | .08 |
| TOTAL | 240.37 |

| WEIGHTS | |
|--------------------------|------------|
| PART | POUNDS |
| BODY, SHELL | 195.25 (2) |
| BAND, ROTATING | 6.78 |
| COVER, BASE | .62 |
| OGIVE ASSEMBLY | 14.33 (2) |
| HEAD, CLOSING | .17 |
| RETAINING SCREW ASSEMBLY | .08 |
| GRIMMET ASSEMBLY | 1.31 |
| SHIPPING WEIGHT | 248.52 |

| SHELL, H.E. 8 INCH, M103 METAL PARTS ASSEMBLY AND DETAILS | | | | |
|---|-------|----------|---------|------|
| AUGUST 28, 1940 | | | | |
| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
| 1 3-3-40 | 75 | 4 | 87 | |
| 2 3-3-41 | | | | |
| 3 3-3-41 | | | | |
| 4 3-3-42 | | | | |
| 5 3-3-43 | | | | |
| 6 3-3-43 | | | | |
| TOLERANCE, ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMAL 2 | | | | |
| FRACTIONAL 2 | | | | |
| ANGULAR 2 | | | | |
| DRG. PERTAINS TO | | | | |
| SUBMITTED | | | | |
| EXAMINED | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| ORDNANCE DEPT., U.S.A. | | | | |

NOTES:
A-MEAN VOLUME OF CAVITY TO OVERFLOWING = 371.3 CUB. IN.
B-MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
C-WEIGHT TOLERANCES NOT EQUIVALENT TO DIMENSION TOLERANCES.
CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
D-TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
E-SHELL MUST BE CAREFULLY CENTERED DURING THE FINISHING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF THE CYLINDRICAL SURFACES. THE FOLLOWING MAX ECCENTRICITIES OF CYLINDRICAL SURFACES WILL BE ACCEPTED, WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.
1-BETWEEN FUSE SEAT OR 3615 THREADS AND BOURRELET .03
2-BETWEEN SHELL BODY AND ROTATING BAND WITH BOURRELET .009 (BOURRELET MUST OVERLAP SHELL BODY ON ENTIRE CIRCUMFERENCE).
F-DIMENSIONS, FOR WHICH NO TOLERANCE IS GIVEN, WILL NOT BE HABITUALLY OBTAINED.
G-COAT INTERIOR SURFACE OF SHELL WITH ANTI-RUST, BLACK PAINT, TYPE I OR II.
H-COAT EXTERIOR SURFACE OF METAL PARTS ASSEMBLY, EXCEPT ROTATING BAND, WITH A FULL PRIME COAT OF PRIMER, SYNTHETIC, LACQUER-RESISTING (ADVISORY DRY FILM THICKNESS .0006 TO .001). THE BASE COVER, IF OF COPPER, NEED NOT BE PAINTED.
I-VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .068.
J-REMOVE ALL BURRS.
K-THE BOURRELET DIA. MAY BE REDUCED TO THE BODY DIA. IN A DISTANCE NOT TO EXCEED .35 INCH.
L-WITH THE PROJECTILE RUNNING TRUE IN ITS BOURRELET, THE ECCENTRICITY OF THE FRONT END OF THE FALSE OGIVE SHALL NOT EXCEED .04 INCH.
M-BEFORE ASSEMBLING FALSE OGIVE TO SHELL BODY, COAT NOSE OF SHELL AND INTERIOR OF FALSE OGIVE ASSEMBLY, EXCEPT THREADS, WITH A FULL PRIME COAT OF PRIMER, SYNTHETIC, LACQUER-RESISTING (ADVISORY DRY FILM THICKNESS .0006 TO .001).
N-WHEN BASE COVER, 75-4-87E, IS USED, SECURE TO BASE OF SHELL BY CONTINUOUS OVERLAPPING SPOT WELDS AROUND EDGE OF BASE COVER.

| LIST OF PARTS | | | | | | | | | |
|---------------|---------------------------------|-------------------------------|------------|--------------|---------------------------------|------------------|--------------|----------------------------------|---|
| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | PIECE MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WEIGHT OF FORWARD STOCK PARTS ASSEMBLIES |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | |
| 1 | METAL PARTS ASSEMBLY | | | | | | 50-30-1 | 216.98 | |
| 2 | METAL PARTS ASSEMBLY (SHIPPING) | | 75-4-87C | | | | | 218.52 | |
| 3 | FALSE OGIVE ASSEMBLY | | 75-4-88A | | | | | 14.32 | |
| 4 | | | | | | | | | |
| 5 | RETAINING SCREW ASSEMBLY | | 75-4-88G | | | | | .06 | |
| 6 | | | | | | | | | |
| 7 | ADAPTER FALSE OGIVE | 1 | 75-4-88C | FORGING | STEEL | 30-40 CARBON | COMMERCIAL | 7.25 | (F) (2) |
| 8 | BAND, ROTATING | 1 | 75-4-87B | | GILDING METAL | | 50-27-1 | 6.78 | |
| 9 | BODY, FALSE OGIVE | 1 | 75-4-88B | | DRAWN STEEL | WD1010 | 57-136 | 8.75 | (C) (h) |
| 10 | BODY, SHELL | 1 | 75-4-87A | FORGING | STEEL | | 57-104-2 | 195.24 | |
| 11 | COVER, BASE, (ALTERNATIVE) | 1 | 75-4-87E | SHEET | STEEL | WD1010 OR WD1020 | 57-136 | .14 | |
| 12 | COVER, BASE, ALTERNATIVE | 1 | 75-4-87D | SHEET | STEEL | WD1010 | 57-136 | .13 | |
| 13 | COVER, BASE, TYPE VII | 1 | 75-14-37 | | | | | .62 | |
| 14 | DISC, RETAINING SCREW | 1 | 75-4-88H | STRIP | BRASS | C, HALF HARD | QQ-B-611 | .04 | (d) |
| 15 | HEAD, CLOSING | 1 | 75-4-88L | ROD | BRASS | B, HALF HARD | QQ-B-611 | .17 | (d) |
| 16 | | | | | | | | | |
| 17 | GROMMET ASSEMBLY | 1 | 75-14-37G | | | | | 1.31 | |
| 18 | SCREW, SET, OGIVE | 1 | 75-4-88E | | STEEL | | COMMERCIAL | .01 | |
| 19 | SCREW, SET, SHELL | 1 | 75-4-88D | | STEEL | | COMMERCIAL | .01 | |
| 20 | STEM, RETAINING SCREW | 1 | 75-4-88K | PIPE | STEEL PIPE | | COMMERCIAL | .02 | |
| 21 | STRIP, CALKING | 1 | 75-14-37B | SHEET | LEAD | B | QQ-L-201 | .20 | (e) |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | GREASE, SHELL | | 50-11-37 | | |
| 25 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | 3-106 | | |
| 26 | | | | | PRIMER, SYNTHETIC, LACQUER-RES. | TYPE I | 3-183 | | |
| 27 | | | | | | | | | |

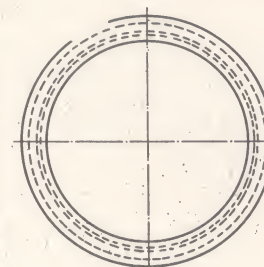
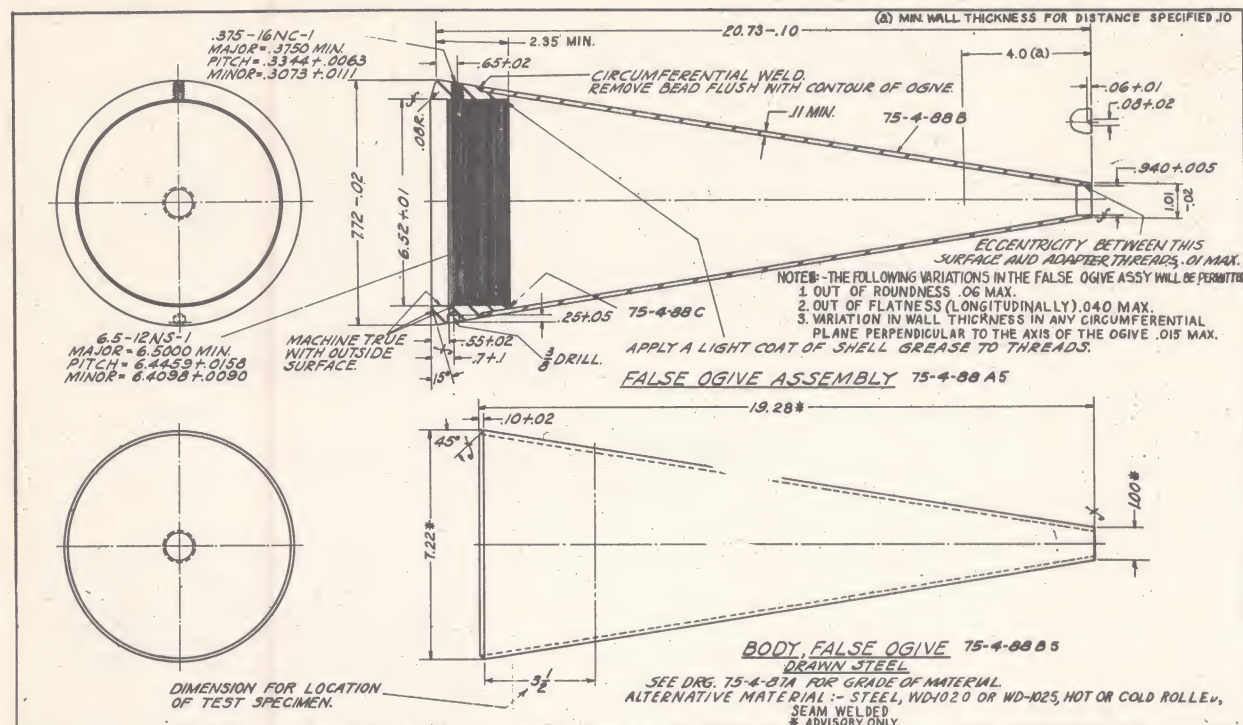
(a)-ALTERNATIVE--SEAMLESS STEEL TUBING, 20-30 CARBON, COMMERCIAL.
 (c)- OGIVE TO BE FORMED FROM 1/8 INCH STEEL. A 3 1/2 INCH LENGTH OF OGIVE TAKEN IMMEDIATELY FORWARD OF THE 723 DIA (75-4-88B, BODY, FALSE OGIVE) MUST WITHSTAND A TOTAL COMPRESSION LOAD OF 89,000 LBS. WITH A MAXIMUM DECREASE IN LENGTH OF .025 DUE TO DEFLECTION WHILE UNDER LOAD. MEASUREMENTS SHOULD BE MADE AT FOUR EQUIDISTANT POINTS AROUND THE PERIPHERY AND THE AVERAGE DEFLECTION AT THESE FOUR POINTS SHALL BE TAKEN AS THE TOTAL DEFLECTION. THE MATERIAL OF THE OGIVE WILL BE IN ACCORDANCE WITH SPECIFICATION 57-136, WD1010, BUT THE CARBON CONTENT MAY BE VARIED TO OBTAIN THE NECESSARY DRAWING PROPERTIES AND MEET THE PRESCRIBED COMPRESSION TESTS.

(h)- ALTERNATIVE--STEEL, WD1020 OR WD1025, HOT OR COLD ROLLED, SPEC. 57-136
 (i)- ALTERNATIVE--STEEL, BAR, 20-30 CARBON, WELDED RING, COMMERCIAL OR CENTRIFUGAL STEEL, CASTING, CLASS 2, SPEC. QQ-S-681
 (d)- ALTERNATIVE--STEEL, COMMERCIAL.
 (e)- REQUIRED WHEN COVER, BASE, ALTERNATIVE 75-4-87D IS USED.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|--|--------------|--------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-4-87 |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG. 75-4-87 |
| 6 | BRASS, COMMERCIAL; BARS, PLATES, RODS, SHAPES, ETC. | QQ-B-611 | DRG. 75-4-88 |
| 7 | | | |
| 8 | | | |
| 9 | FORGINGS, FOR COMMON STEEL SHELL AND SHARPNEL | 57-104-2 | DRG. 75-4-87 |
| 10 | | | |
| 11 | | | |
| 12 | STEEL, CASTINGS | QQ-S-681 | DRG. 75-4-88 |
| 13 | GREASE, SHELL | 50-11-37 | DRG. 75-4-88 |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | LEAD, SHEET | QQ-L-201 | DRG. 75-4-87 |
| 20 | | | |
| 21 | METALS: GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-104-2 |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | PAINT, ACID-PROOF BLACK, FOR AMMUNITION | 3-106 | DRG. 75-4-87 |
| 26 | | | |
| 27 | | | |
| 28 | PRIMER, SYNTHETIC, LACQUER-RESISTING | 3-183 | DRG. 75-4-87 |
| 29 | | | |
| 30 | | | |
| 31 | | | |
| 32 | | | |
| 33 | | | |
| 34 | | | |
| 35 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG. 75-4-87 |
| 36 | SHELL, STEEL, MANUFACTURED FROM FORGINGS | 50-30-1 | DRG. 75-4-87 |
| 37 | STEEL SHEETS AND STRIPS, CARBON AND ALLOY | 57-136 | DRG. 75-4-88 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

| | | | |
|--|----------|-----------------------------|----------|
| SHELL, H.E., 8 INCH M103. METAL PARTS ASSEMBLY LIST OF PARTS AND LIST OF SPECIFICATIONS | | | |
| AUGUST 28, 1940 | | CLASS | DIVISION |
| REVISIONS | | 75 | 4 |
| 1 | 5-31-41 | | 87A |
| 2 | 10-30-41 | | |
| 3 | 12-3-41 | | |
| 4 | 5-7-43 | | |
| 5 | 4-10-44 | | |
| 6 | 8-15-45 | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL ± | | | |
| FRACTIONAL ± | | | |
| ANGULAR ± | | | |
| DRG. PERTAINS TO | | DYKMAN | TRACER |
| 75-4-87 | | A.E.P. | J.M.X. |
| CHECKED | | ENGINEER | |
| SUBMITTED | | PRINCIPAL ENGINEER | |
| EXAMINED | | 1947 | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | LT. COL., ORD. DEPT. U.S.A. | |
| D | | ORDNANCE DEPT., U.S.A. | |



* ADVISORY ONLY

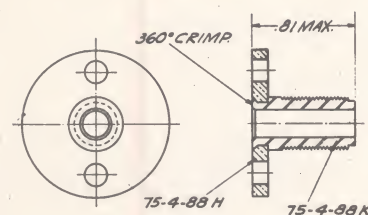
ADAPTER, FALSE OGIVE 75-4-88 C5
STEEL FORGING, 30-40 CARBON, COMMERCIAL - ALTERNATIVE, CENTRIFUGAL CASTING, STEEL, CLASS 2
ALTERNATIVE MATERIAL: SEAMLESS STEEL TUBING, 20-30 CARBON, COMMERCIAL.
ALTERNATIVE MATERIAL: STEEL, BAR, 20-30 CARBON, FORMED, ELECTRICAL RESISTANCE
WELDED AND STRESS RELIEVED, COMMERCIAL.
FINISH: X

.375-16NC-1
MAJOR = .3732-.0126
PITCH = .3326-.0063
MINOR = .2965 MAX.

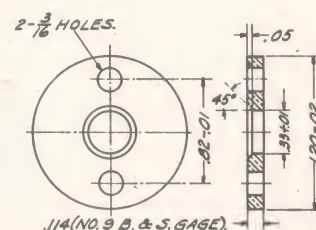
SCREW, SET, OGIVE 75-4-88 E4
STEEL, COMMERCIAL
FINISH: X
CADIUM OR ZINC PLATE.

.3125-18NC-2
MAJOR = .3125-.0082
PITCH = .2764-.0041
MINOR = .2443 MAX.

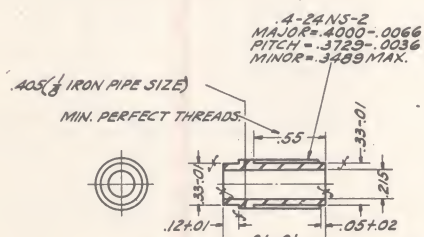
SCREW, SET, SHELL 75-4-88 D4
STEEL, COMMERCIAL
FINISH: X
CADIUM OR ZINC PLATE.



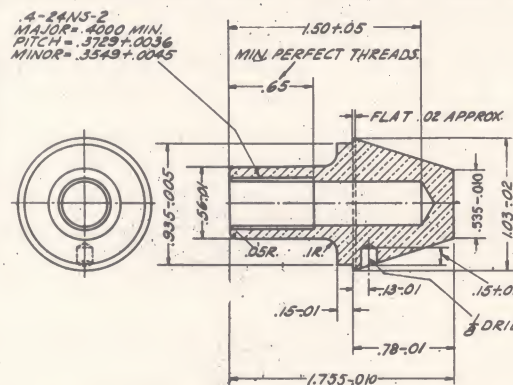
RETAINING SCREW ASSEMBLY 75-4-88 G



DISC, RETAINING SCREW 75-4-88 H4
COMMERCIAL BRASS, STRIP COMPOSITION 'C', HALF HARD.
ALTERNATIVE MATERIAL: STEEL (CADIUM OR ZINC PLATE)



STEM, RETAINING SCREW 75-4-88 K4
STEEL PIPE, COMMERCIAL
CADIUM OR ZINC PLATE.



HEAD, CLOSING 75-4-88 L5
COMMERCIAL BRASS, ROD COMPOSITION 'B', HALF HARD
FINISH: X
ALTERNATIVE MATERIAL: STEEL (CADIUM OR ZINC PLATE).

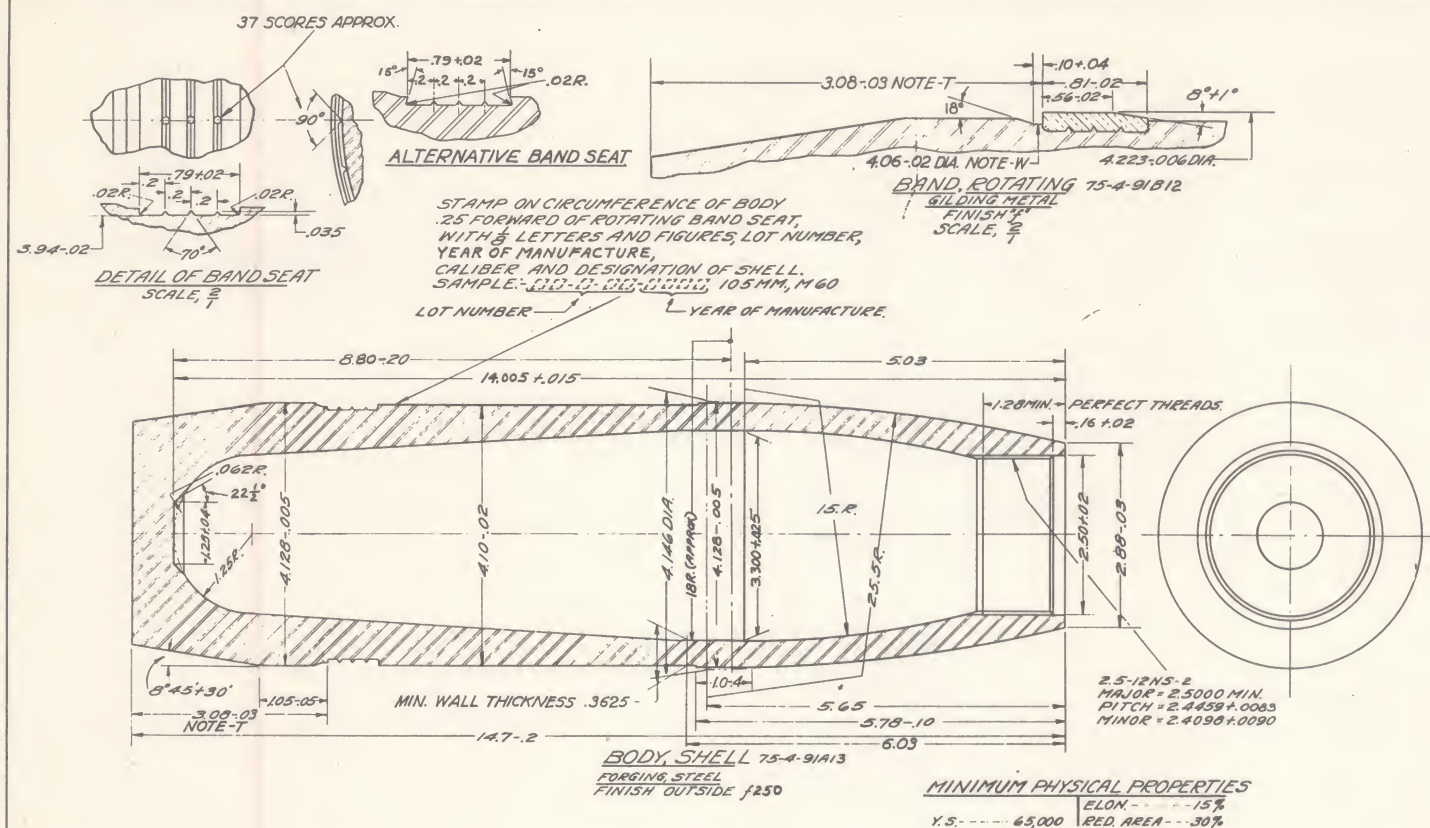
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REMOVE ALL BURRS

SCALE, INCHES: 1/2, 1/4, 1/8

**SHELL, H.E., 8 INCH, M103
DETAILS.**

| AUGUST 28, 1940. | | | | CLASS | DIVISION | DRAWING | FILE |
|------------------|----------|--|--|--------------------------------|----------|--------------|------|
| REVISIONS | | | | 75 | 4 | 88 | |
| 1 | 10-8-40 | | | SYMBOL | | | |
| 2 | 10-30-41 | | | | | | |
| 3 | 12-3-41 | | | | | | |
| 4 | 5-7-43 | | | | | | |
| 5 | 8-15-45 | | | | | | |
| DRG. PERTAINS TO | | | | DFTMAN | TRACER | ENGINEER | |
| 75-4-87 | | | | A.E.R. | A.E.R. | W.D.S. | |
| | | | | CHECKER | CHECKER | CHIEF DFTMAN | |
| | | | | W.D.S. | W.D.S. | M.T. | |
| | | | | SUBMITTED: | | | |
| | | | | EXAMINED: | | | |
| | | | | APPROVED BY CHIEF OF ORDNANCE: | | | |
| | | | | D. COL. ORD. DEPT. U.S.A. | | | |
| | | | | ORDNANCE DEPT. U.S.A. | | | |



NOTES:

A-MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.

B-MEAN VOLUME OF CAVITY TO OVERFLOWING = 89.79 CU IN.

C-WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES; CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.

D-TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.

E-DIMENSIONS FOR WHICH NO TOLERANCES ARE GIVEN WILL NOT BE HABITUALLY GAGED.

F-SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES, THE FOLLOWING MAXIMUM ECCENTRICITY OF CYLINDRICAL SURFACES WILL BE ACCEPTED: (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.)

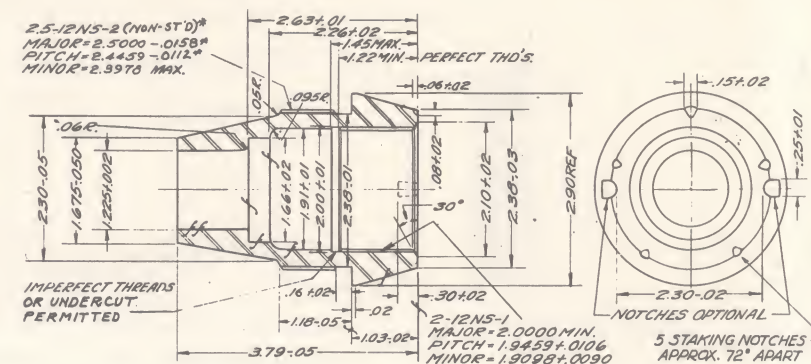
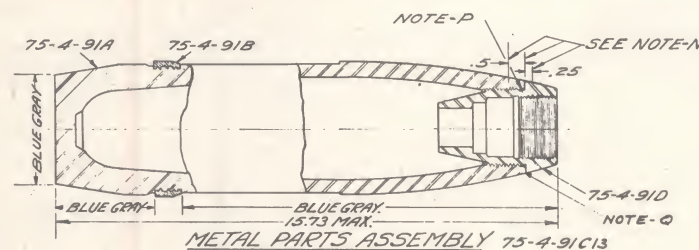
1-BETWEEN FUZE THREADS IN ADAPTER (2-12NS-1) AND OUTSIDE SHELL BODY .015

2-BETWEEN BOURRELET AND ROTATING BAND WITH SHELL BODY, .008 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE)

3-BETWEEN BURSTER TUBE RECESS AND ADAPTER SEAT THREADS, .03

4-BETWEEN ADAPTER HOLE (1.225+.002) AND OUTSIDE SHELL BODY .015

G-AFTER BRAZING ADAPTER TO SHELL BODY ASSEMBLY MUST WITHSTAND AN AIR PRESSURE TEST OF 100 LBS. PER SQ. IN. FOR 15 SECONDS WITHOUT LEAKAGE.



| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---|----------------|
| 1 | METAL PARTS ASSEMBLY | 75-4-91 |
| 2 | BLANKS, ROTATING BAND, FOR PROJ. TYPE M5A1A | 75-1A-41 |
| 3 | FORGING FOR SHELL, M.E. 105MM, M1 (a) | 75-20-76 |
| 4 | LIST OF PARTS AND LIST OF SPECS. | 75-4-91A |
| 5 | | |
| 6 | | |

(Q) DESIGN SHOWN ON THIS DRAWING NOT MANDATORY.

| DESIGN DATA | |
|-----------------------------|--------|
| PART | POUNDS |
| SHELL, EMPTY (WITH ADAPTER) | 26.58 |
| CHARGE, SMOKE (WP) (Y) | 4.102 |
| CHARGE, BURSTER, M5 | .36 |
| CASING, BURSTER, M5 | 1.11 |
| CUP, FUZE WELL | .02 |
| BOOSTER, M22 | .73 |
| FUZE, M57 | 1.41 |
| TOTAL | 34.31 |

| WEIGHTS | |
|---------------------|-----------|
| PART | POUNDS |
| BODY, SHELL | 24.24 |
| BAND, ROTATING | .47 |
| ADAPTER | 1.86 |
| TOTAL WEIGHT, EMPTY | 26.57±.60 |

(Y) - FOR HS GAS = 317 LBS.
FOR FS SMOKE = 461 LBS.

(Z) - WEIGHT INCLUDES LAYER OF WATER 1/8 INCH THICK.

SCALE, INCHES, 1/2

WITH NEW TRACING 75-4-91A
SUPERSEDES OLD TRACING 75-4-91
UNDER REVISION DATE OF JULY 5, 43

SHELL, CHEMICAL, 105MM, M60 METAL PARTS ASSEMBLY AND DETAILS.

| SEPTEMBER 26, 1940 | CLASS | DIVISION | DRAWING | FILE |
|--|--------------------------|-------------|---------|----------|
| REVISIONS | 75 | 4 | 91 | |
| 8 10-30-41 | | | | |
| 9 5-26-42 | | | | |
| 10 7-5-43 | | | | |
| 11 5-16-44 | | | | |
| 12 9-23-44 | | | | |
| 13 8-15-45 | | | | |
| DRG. PERTAINS TO | | | | |
| DESIGNED BY | R.F.H. | TRACED BY | L.H. | ENGINEER |
| CHECKED BY | W.C.H. | APPROVED BY | J.M. | ENGINEER |
| SUBMITTED BY | J.M. Gallagher | | | |
| EXAMINED BY | D.R. Woodbury | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| | COL., ORDN. DEPT. U.S.A. | | | |
| | ORDNANCE DEPT. U.S.A. | | | |

| LIST OF PARTS | | | | | | | | | |
|---------------|----------------------|-------------------------------|------------|--------------|---------------------------|-------------------------|--------------|--|---------|
| LINE NO | NAME OF PART | NUMBER REQUIRED CONVARIANT | PIECE-MARK | MATERIAL | | GRADE | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | REMARKS |
| | | | | SIZE OR FORM | KIND | | | | |
| 1 | METAL PARTS ASSEMBLY | | 75-4-91C | | | | 50-30-1 | 26.50 | |
| 2 | | | | | | | | | |
| 3 | ADAPTER | 1 | 75-4-91D | BAR | STEEL, COLD DRAWN | WDX 1314 OR WDX 1315 | 57-107 | 1.86 | (a) |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | BAND, ROTATING | 1 | 75-4-91B | TUBING | GILDING METAL | | 50-27-1 | .47 | |
| 7 | BODY, SHELL | 1 | 75-4-91A | FORGING | STEEL | | 57-104-2 | 24.24 | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | SCREW, SET | 1 | 75-4-91F | ROD | STEEL | | COMMERCIAL | .01 | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | GREASE, SHELL | | 50-11-37 | | |
| 17 | | | | | LACQUER ENAMEL, BLUE GRAY | I | JAN-L-73 | | (b) |
| 18 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | 3-106 | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | WIRE | SOLDER, SILVER | | QQ-5-561 | | (c) |
| 22 | | | | | FLUX, BRAZING (SILVER) | | | | |

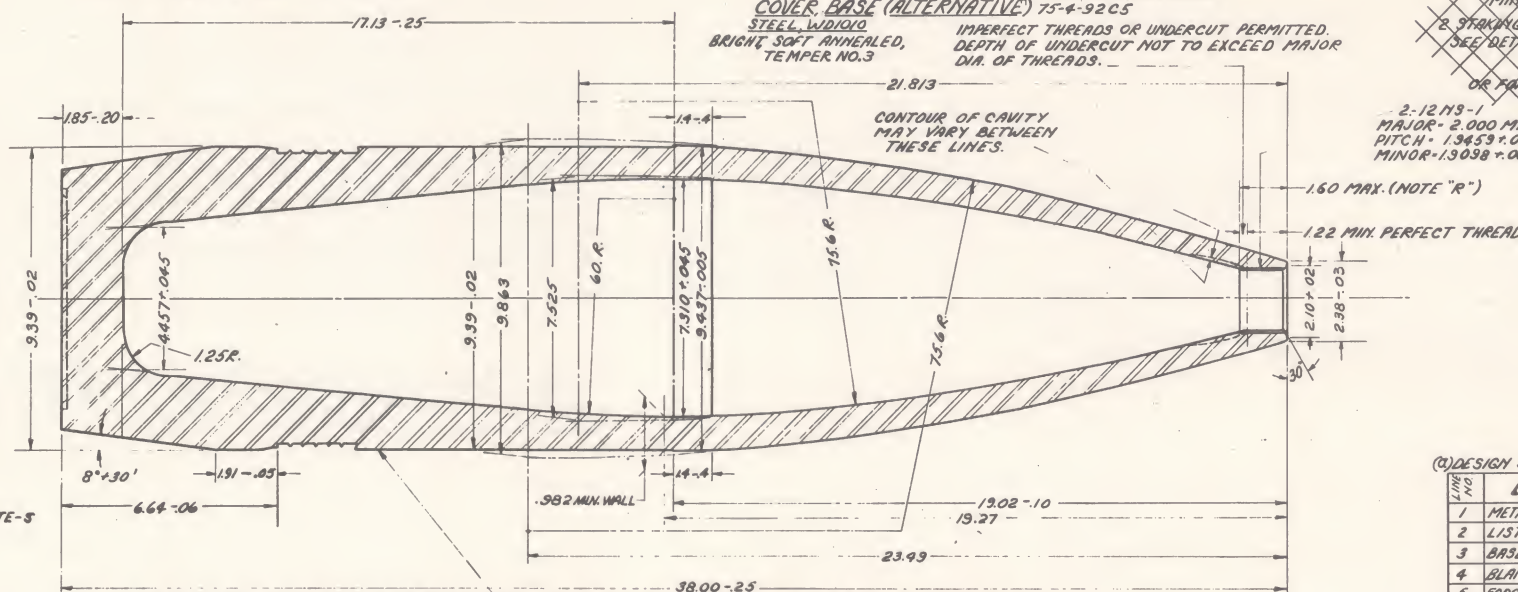
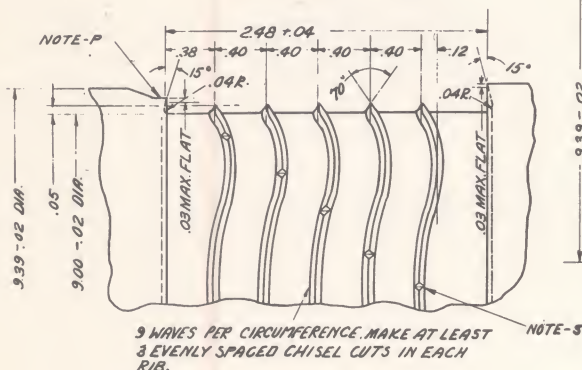
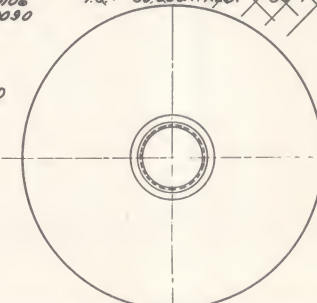
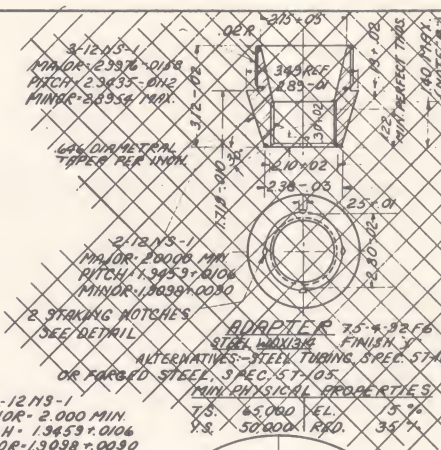
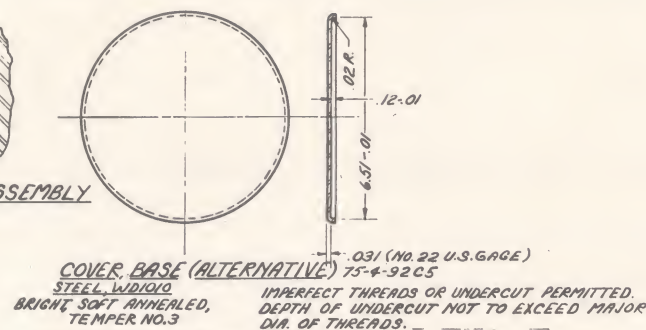
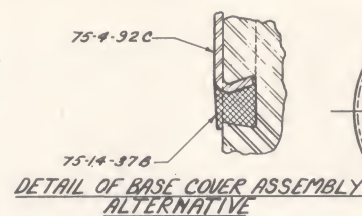
(a)- ALTERNATIVE MATERIAL:- FORGED STEEL, WDX 1314 OR WDX 1315 SPEC. 57-105
 (b)- ALTERNATIVE MATERIAL:- ENAMEL, BLUE-GRAY, GRADE I, SPEC. JAN-E-74
 (c)- WIRE SIZE:- .05 X .156 ± .006 X 7.45

| LIST OF SPECIFICATIONS | | | SPEC. NUMBER | REQUIRED BY |
|------------------------|---|--|--------------|-------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | | 50-0-1 | DRG 75-4-91 |
| 2 | BLANKS, ROTATING BAND, FOR PROJECTILES | | 50-27-1 | DRG 75-4-91 |
| 3 | CLEANING AND PREPARATION OF METAL SURFACES, ETC. | | AXS-1245 | DRG 75-4-91 |
| 4 | | | | |
| 5 | ENAMEL, LUSTRELESS, QUICK-DRYING | | JAN-E-74 | DRG 75-4-91 |
| 6 | | | | |
| 7 | FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL | | 57-104-2 | DRG 75-4-91 |
| 8 | FORGINGS, LIGHT, DROP AND MISC., STEEL, CARBON AND ALLOY | | 57-105 | DRG 75-4-91 |
| 9 | FLUX, BRAZING (SILVER) | | 4-1121 | DRG 75-4-91 |
| 10 | | | | |
| 11 | GREASE, SHELL | | 50-11-37 | DRG 75-4-91 |
| 12 | | | | |
| 13 | LACQUER ENAMEL, LUSTRELESS | | JAN-L-73 | DRG 75-4-91 |
| 14 | METALS; GENERAL SPECIFICATION FOR INSPECTION OF | | QQ-M-151 | 57-107 |
| 15 | PAINT, ACID-PROOF BLACK | | 3-106 | DRG 75-4-91 |
| 16 | PAINTS AND RELATED MATERIALS, GENERAL SPEC'S FOR | | (f) 3-1 | JAN-L-73 |
| 17 | | | | |
| 18 | | | | |
| 19 | STEEL, FORGING; FOR SHELL STOCK | | 57-104-1 | DRG 75-4-91 |
| 20 | SHELL, STEEL MANUFACTURED FROM FORGINGS | | 50-30-1 | DRG 75-4-91 |
| 21 | STEEL, CARBON, AND ALLOY, BARS | | 57-107 | DRG 75-4-91 |
| 22 | SOLDER, SILVER | | QQ-5-561 | DRG 75-4-91 |
| 23 | SHIPMENT, MARKING, STANDARD SPECIFICATIONS FOR | | 100-2 | 50-30-1 |
| 24 | | | | |
| 25 | | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
 WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
 SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.
 (f)- COLOR CARD SUPPLEMENT ONLY MANDATORY.

WITH NEW TRACING 75-4-91
 SUPERSEDES OLD TRACING 75-4-91
 UNDER REVISION DATE OF JULY 5-43

| | | | |
|--|---------|--------|----------|
| SHELL, CHEMICAL, 105MM, M60 | | | |
| LIST OF PARTS AND | | | |
| LIST OF SPECIFICATIONS. | | | |
| JULY 5, 1943 | | CLASS | DIVISION |
| REVISIONS | | 75 | 4 |
| 1 8-15-45 | | 91A | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL ± | | | |
| FRACTIONAL ± | | | |
| ANGULAR ± | | | |
| DRG. PERTAINS TO | CHECKER | TRACER | ENGINEER |
| | REF | REF | REF |
| SUBMITTED: | | | |
| Amgallagher | | | |
| EXAMINED: | | | |
| Lt. Col. Woodbury | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | |
| COL. ORD. DEPT. U.S.A. | | | |
| ORDNANCE DEPT., U.S.A. | | | |

[illegible]

NOTES -

A- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.

B- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSIONAL TOLERANCES.

C- CONTROL DIMENSIONAL TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.

C- VOLUME OF CAVITY TO OVERFLOW .35 CC IN

D- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.

E- SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINING OPERATIONS IN ORDER TO MAINTAIN CONCENTRICITY OF THE CYLINDRICAL SURFACES. THE FOLLOWING MAXIMUM ECCENTRICITIES OF SURFACES WILL BE ACCEPTED. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READ OF THE DIAL IS TWICE THE ECCENTRICITY.)

1. BETWEEN BUZZ SEAT AND SHELL BODY, .04
2. BETWEEN BOURRELET AND ROTATING BAND WITH SHELL BODY, .010 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE)
3. BETWEEN BASE COVER(.5-4-.92C) OR BASE COVER GROOVE WITH BASE DIAMETER OF SHELL, .05

F- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.

G- COAT INTERIOR SURFACE OF SHELL WITH ACID PROOF BLACK PAINT, TYPE I OR II.

G- COAT ENTIRE EXTERIOR SURFACE OF METAL PARTS SHAPING ASSEMBLY EXCEPT BAND, WITH SYNTHETIC PRIMER. THE BASE COVER, IF OF COPPER, NEED NOT BE PAINTED.

K- STENCIL "EMPTY" LONGITUDINALLY ON SHELL BODY IN 10 INCH LETTERS WITH BLACK STENCIL PAINT ON SHELL INTENDED FOR PROOF FIRING ONLY.

L- ADAPTER 75-14-350 TO BE USED FOR SALVAGING BODY AND MAKING ALTERNATIVE METAL PARTS ASSEMBLY 75-4-.92 G.

P- RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDINGS.

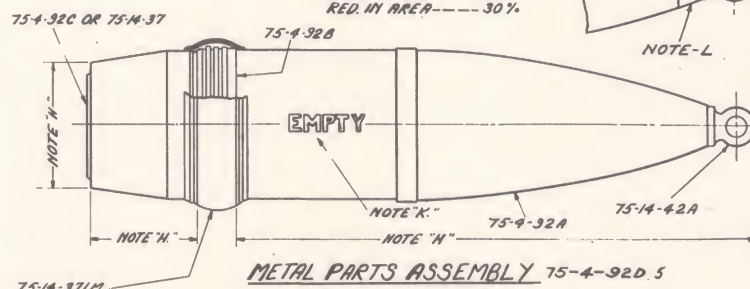
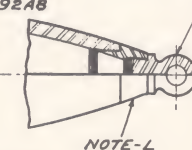
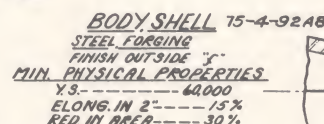
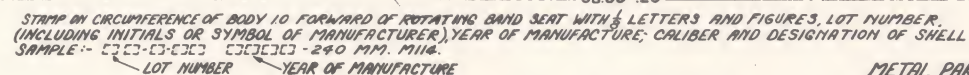
Q- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET SHALL NOT EXCEED .060

R- NO THREADS OR PARTIAL THREADS ALLOWED BEYOND 1.60

T- REMOVE ALL BURRS

U- REAR FACE OF ROTATING BAND SHALL BE $\pm .03$ FROM REAR EDGE OF BAND SEAT.

S- RIBS HAVING MISSING OR DEFECTIVE SECTIONS NOT OVER 10% OF THE TOTAL LENGTH OF ALL RIBS WILL BE ACCEPTABLE. THIS ACCUMULATED LENGTH OF DEFECTIVE OR MISSING RIB MAY BE CONFINED TO ONE RIB OR DISTRIBUTED OVER ALL RIBS.



METAL PARTS ASSEMBLY (ALTERNATIVE) 75-4-9267

| DESIGN DATA | |
|-------------------|--------|
| PART | POUNDS |
| BODY, SHELL | 296.31 |
| BAND, ROTATING | 6.30 |
| CHARGE (CAST TNT) | 54.00 |
| COVER, BASE | 1.23 |
| CUP, FUZE WELL | .06 |
| FUZE, P.D. M51A3 | 2.14 |
| TOTAL | 360.04 |

| WEIGHTS | |
|--------------------|--------------|
| PART | POUNDS |
| BODY SHELL | 296.91 |
| BAND, ROTATING | 6.30 |
| COVER, BASE | 1.23 |
| TOTAL WEIGHT EMPTY | 303.84 ± .45 |
| | |
| PLUG, LIFTING | 1.75 |
| GROMMET | 1.76 |
| SHIPPING WEIGHT | 307.35 |

SCALE: $\frac{1}{4}, \frac{1}{2}, 1, 2$

| (C) DESIGN SHOWN ON THIS DRAWING NOT MANDATORY | | |
|--|--------------------------------------|----------------|
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
| 1 | METAL PARTS ASSEMBLY | 75-4-92 |
| 2 | LIST OF PARTS AND LIST OF SPECS. | 75-4-92 A |
| 3 | BASE COVERS FOR PROJECTILES | 75-14-37 |
| 4 | BLANKS, ROTATING BAND FOR PROJ. | 75-14-41 (C) |
| 5 | FORGEING FOR 240 MM. N.E. SNELL M14. | 75-20-89 |
| 6 | PLUG, LIFTING (EYEBOLT TYPE) | 75-14-42 |
| 7 | GROMMET | 75-14-371 |
| 8 | | |
| 9 | ADAPTER | 75-14-590 |

SUPERSEDES OLD TRACING 75-4-92
UNDER REVISION DATE OF JUNE 16, 1944

**SHELL, HE, 240-MM, M114
METAL PARTS ASSEMBLY
AND DETAILS**

| | | | | | | | | | |
|------------------|--|--|--|----------|--|---------|--|--------|--|
| APRIL 21, 1941 | | CLASS | | DIVISION | | DRAWING | | FILING | |
| REVISONS | | 75 | | 4 | | 92 | | | |
| 4 10-20-48 | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL 1 FRACTIONAL 1/2 ROUNDED 1/2 DFTSMAN M.J.E. TRACER M.J.E. A... ENGINE CHECKER W.H. PRIMER ENGINEER S.M.T. SUBMITTED- <i>Am. Gallagher</i> NY COL. ORD. DEPT. U.S. EXAMINED- <i>L. M. Dwyer</i> CAPT., ORD. DEPT. U.S. APPROVED BY ORDER OF THE CHIEF OF ORDNANCE. <i>C.S. Reed</i> 147 4 COL. ORD. DEPT. U.S. | | | | | | | |
| 5 6-16-44 | | | | | | | | | |
| 6 8-25-44 | | | | | | | | | |
| 7 6-2-45 | | | | | | | | | |
| 8 8-15-45 | | | | | | | | | |
| DRG. PERTAINS TO | | | | | | | | | |
| 75-14-349 | | | | | | | | | |
| D | | | | | | | | | |

| LIST OF PARTS | | | | | | | | | |
|---------------|-----------------------------|---------------------------|-----------|--------------------|--------------------------|--------------------|----------------------------------|--|---------|
| LINE NO | NAME OF PART | NUMBER REQD PER COMPONENT | PIECEMARK | MATERIAL | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WT. OF EACH STANDARD ASSEMBLY | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE SPEC. NO. | | | |
| 1 | METAL PARTS ASSEMBLY | | 75-4-92D | | | 50-30-1 | 307.35 | | |
| 2 | METAL PARTS ASSEMBLY (ALT.) | | 75-4-92G | | | 50-30-1 | 307.35 | | |
| 3 | BAND, ROTATING | 1 | 75-4-92B | TUBING | GILDING METAL | 50-27-1 | 6.30 | | |
| 4 | BODY, SHELL | 1 | 75-4-92A | FORGING | STEEL | 57-104-2 | 296.31 | | |
| 5 | | | | | | | | | |
| 6 | COVER, BASE (ALTERNATIVE) | 1 | 75-4-92C | SHEET | STEEL | WD1010 57-136 | .29 | | (b) |
| 7 | COVER, BASE | 1 | 75-14-37C | SHEET | COPPER, TYPE II | CLASS "A" QQ-C-501 | | | (b) (a) |
| 8 | DISC | 1 | 75-14-37A | SHEET | LEAD | B QQ-L-201 | 1.23 | | (b) (a) |
| 9 | STRIP, CALKING | 1 | 75-14-37B | SHEET | LEAD | B QQ-L-201 | | | (b) (a) |
| 10 | GROMMET | 1 | 75-14-37M | | | | 1.76 | | |
| 11 | | | | | | | | | |
| 12 | PLUG, LIFTING | 1 | 75-14-42A | FORGING OR CASTING | STEEL | 50-44-2 | 1.75 | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | PAINT, ACID-PROOF, BLACK | TYPE I OR II 3-106 | | | |
| 17 | | | | | PAINT, BLACK, STENCIL | 3-179 | | | |
| 18 | | | | | PRIMER, SYNTHETIC | TYPE I 3-183 | | | |
| 19 | | | | | | | | | |

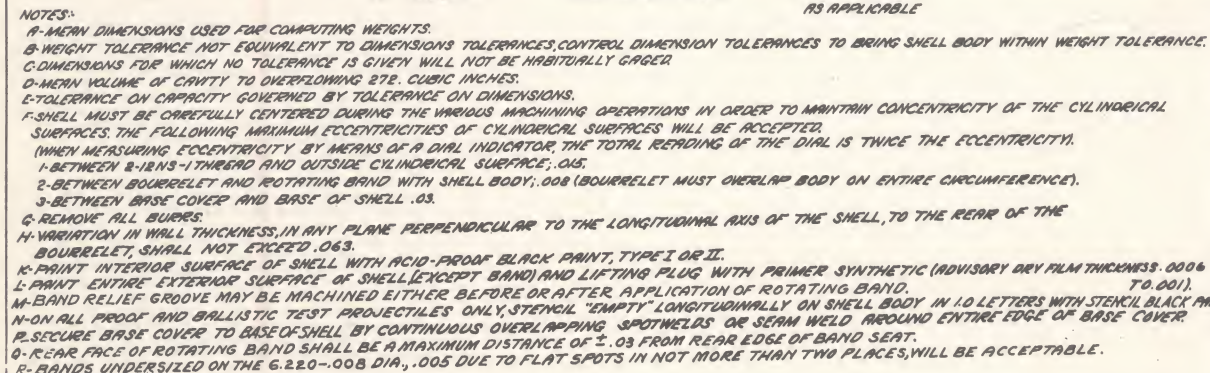
- (a) USE WITH TYPE IX BASE COVER
(b) TYPE OF BASE COVER TO BE INDICATED IN CONTRACT

| LINE NO | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|---------|--|----------------|---------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECS. FOR | 50-0-1 | DRG. 75-4-92 |
| 2 | | | |
| 3 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG. 75-4-92 |
| 4 | | | |
| 5 | COPPER, BARS, PLATES, RODS, SHAPES, SHEETS AND STRIPS | QQ-C-501 | DRG. 75-4-92 |
| 6 | CLEANING AND PREPARATION OF METAL SURFACES ETC. | AXS-1245 | 50-30-1 |
| 7 | STEEL, FORGING, FOR SHELL STOCK | 57-104-1 | DRG. 75-4-92 |
| 8 | FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 | DRG. 75-4-92 |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |
| 13 | LEAD, SHEET | QQ-L-201 | DRG. 75-4-92 |
| 14 | | | |
| 15 | | | |
| 16 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-136 |
| 17 | | | |
| 18 | PAINT, ACID-PROOF BLACK, FOR AMMUNITION | 3-106 | DRG. 75-4-92 |
| 19 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 | 3-179 |
| 20 | PAINT, STENCIL | 3-179 | DRG. 75-4-92 |
| 21 | PLUGS, LIFTING (EYEBOLT TYPE) FOR PROJECTILES | 50-44-2 | DRG. 75-14-42 |
| 22 | PRIMER, SYNTHETIC, LACQUER-RESISTING | 3-183 | DRG. 75-4-92 |
| 23 | | | |
| 24 | SHELL, STEEL, MANUFACTURED FROM FORGINGS | 50-30-1 | DRG. 75-4-92 |
| 25 | SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR | 100-2 | 50-30-1 |
| 26 | STEEL, SHEETS AND STRIPS, CARBON AND ALLOY | 57-136 | DRG. 75-4-92 |
| 27 | | | |
| 28 | | | |
| 29 | | | |
| 30 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

SUPERSEDES OLD TRACING 75-4-92A
UNDER REVISION DATE OF JUNE 16, 1944

| | | | |
|---|---------|--|----------|
| SHELL, H.E., 240-MM, M114 | | | |
| LIST OF PARTS AND LIST OF SPECIFICATIONS | | | |
| APRIL 21, 1941 | | CLASS | DIVISION |
| REVISIONS | | 75 | 4 |
| 3 | 5-26-42 | | 92A |
| 4 | 6-16-44 | | |
| 5 | 6-2-45 | | |
| 6 | 8-15-45 | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL ± | | | |
| FRACTIONAL ± | | | |
| ANGULAR ± | | | |
| DRG. PERTAINS TO | | | |
| SUBMITTED: | | <div> <div> D. FERNAN K.L.M. CHECKER </div> <div> K.L.M. TRACER </div> <div> ENGINEER </div> </div> | |
| EXAMINED: | | <div> <div> C. S. Need CAPT. ORG. DEPT. U.S.A. </div> <div> C. S. Need CAPT. ORG. DEPT. U.S.A. </div> </div> | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | <div> <div> C. S. Need COL. ORG. DEPT. U.S.A. </div> <div> ORDNANCE DEPT., U.S.A. </div> </div> | |



(c) ALTERNATIVE MATERIAL: STEEL CASTING OR MALLEABLE IRON CASTING.

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HEREON SHALL NOT APPLY.

SCALE: $\frac{1}{4}, \frac{1}{2}, 1, 2$

(C) DESIGN SHOWN NOT MANDATORY.
(D) ADVISORY ONLY.

| JULY 31, 1941 | | | | CLASS | DIVISION | DRAWING | FILE |
|------------------|----------|--|--|--|---------------------|-----------------|------|
| REVISIONS | | | | | | | |
| 1 | 11-25-41 | | | 75 | 4 | 99 | |
| 2 | 12-4-42 | | | | | | |
| 3 | 4-11-44 | | | | | | |
| 4 | 8-15-65 | | | | | | |
| | | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| | | | | DECIMAL 5 | | | |
| | | | | FRACTIONAL 2 | | | |
| | | | | ANGULAR 2 | | | |
| DRG. PERTAINS TO | | | | DTPMAN | TRACER | ENGINEER | |
| 75-14-307 | | | | HTL | <i>[Signature]</i> | <i>K</i> | |
| | | | | CHECKER | <i>[Signature]</i> | <i>ENGINEER</i> | |
| | | | | <i>8-15-65</i> | | | |
| | | | | SUBMITTED | <i>H. P. Wagner</i> | | |
| | | | | LT. COL., ORD. DEPT. U. S. | | | |
| | | | | EXAMINED | <i>[Signature]</i> | | |
| | | | | LT. COL., ORD. DEPT. U. S. | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | |
| | | | | <i>[Signature]</i> | | | |
| | | | | BRIG. GEN. ORD. DEPT. U. S. | | | |
| D | | | | ORDNANCE DEPT. U. S. | | | |

| LIST OF PARTS | | | | | | | | | |
|---------------|-------------------------------|---------------------------|------------|---------------|---------------------------|-----------|------------------------------|---|---------|
| LINE NO. | NAME OF PART | NUMBER REQD. PER ASSEMBLY | PIECEMARK | MATERIAL | | | APPROX. UNIT WEIGHT (POUNDS) | APPROX. GROSS WGT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | |
| 1 | METAL PARTS SHIPPING ASSEMBLY | | 75-4-101F | | | | AXS-661 | 90.81 | |
| 2 | | | | | | | | | |
| 3 | BAND, ROTATING | 1 | 75-4-101E | | GILDING METAL | | 50-27-1 | 2.22 | |
| 4 | BODY, PROJECTILE | 1 | 75-4-101A | | STEEL | | | 76.40 | |
| 5 | | | | | | | | | |
| 6 | CAP | 1 | 75-4-101B | FORGING | STEEL | | | 5.27 | (a)(c) |
| 7 | | | | | | | | | |
| 8 | GROMMET ASSEMBLY | 1 | 75-14-371D | | | | | .70 | |
| 9 | | | | | | | | | |
| 10 | PLUG, FUZE HOLE | 1 | 75-4-101D | BAR OR MOLDED | PLASTIC | | AXS-698 | 1.40 | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | WINDSHIELD | 1 | 75-4-101C | | DRAWN STEEL | WD1010(h) | 57-136 | 4.82 | (b) |
| 14 | | | | | | | | | |
| 15 | | | | | FLUX, NONACID | | 83-12 | | |
| 16 | | | | | | | | | |
| 17 | | | | | PRIMER, SYNTHETIC | | AXS-946 | | |
| 18 | | | | | SOLDER, LOW-MELTING POINT | A | 57-98 | | (d) |
| 19 | | | | | PAINT, ACID-PROOF, BLACK | | 3-106 | | |
| 20 | | | | | INK, MARKING, WHITE | | 36-2 | | |
| 21 | | | | | SILVER SOLDER | GLASS 4 | AXS-741 | | |

- (h) TEST SECTION INDICATED ON WINDSHIELD 3/4" HIGH MUST WITHSTAND A TOTAL COMPRESSION LOAD OF 70,000 LBS. WITH A MAXIMUM DECREASE IN LENGTH OF .025 INCH DUE TO DEFLECTION WHILE UNDER LOAD. MEASUREMENTS SHOULD BE AT FOUR EQUIDISTANT POINTS AROUND THE PERIPHERY AND THE AVERAGE DEFLECTION AT THESE FOUR POINTS SHALL BE TAKEN AS THE TOTAL DEFLECTION. THE MATERIAL OF THE WINDSHIELD WILL BE IN ACCORDANCE WITH SPECIFICATION 57-136, WD1010, BUT THE CARBON CONTENT MAY BE VARIED TO OBTAIN THE NECESSARY DRAWING PROPERTIES AND MEET THE PRESCRIBED COMPRESSION TESTS.
- (i) CAP MAY BE MADE BY ANY OTHER METHOD APPROVED BY THE CHIEF OF ORDNANCE.
- (j) THE WELDED OR BRAZED JOINT OF THE WINDSHIELD FABRICATION MUST WITHSTAND A COMPRESSION LOAD AT LEAST EQUAL TO THAT REQUIRED OF THE TEST SECTION OF THE WINDSHIELD.
- (k) SUBSTITUTE MATERIAL: MALLEABLE IRON CASTING, TYPE "A"; SPEC. QQ-I-666.
- (l) ALTERNATIVE MATERIAL: A SOLDER OF CHEMICAL COMPOSITION, 22% ± 1% TIN, 22% ± 1% LEAD, 56% ± 1% BISMUTH, AND 96°C. MELTING POINT.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|---|----------------|---------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-4-101 |
| 2 | | | |
| 3 | BLANKS, ROTATING BAND FOR PROJECTILES | 50-27-1 | DRG. 75-4-101 |
| 4 | | | |
| 5 | FLUX, NONACID | 83-12 | DRG. 75-4-101 |
| 6 | | | |
| 7 | CLEANING AND PREPARATION OF METAL SURFACES, ETC. | AXS-1245 | DRG. 75-4-101 |
| 8 | | | |
| 9 | IRON, MALLEABLE CASTINGS | QQ-I-666 | DRG. 75-4-101 |
| 10 | PRIMER, SYNTHETIC, LACQUER-RESISTING | AXS-946 | DRG. 75-4-101 |
| 11 | | | |
| 12 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-107 |
| 13 | | | |
| 14 | | | |
| 15 | PAINT, ACID PROOF BLACK, FOR AMMUNITION | 3-106 | DRG. 75-4-101 |
| 16 | | | |
| 17 | PAINTS AND RELATED MATERIALS, GENERAL SPECS. FOR | 3-1 | 3-106 |
| 18 | PLASTIC, MOLDED COMPOUND FOR AMMUNITION | AXS-698 | DRG. 75-4-101 |
| 19 | PROJECTILE, 155MM., A.P., M112, M112B1 AND M112B2 | AXS-661 | DRG. 75-4-101 |
| 20 | INK, MARKING, (FOR MARKING AMMUNITION) | 36-2 | DRG. 75-4-101 |
| 21 | PLASTIC, ORGANIC, GENERAL SPECS FOR | L.P.-406 | AXS-698 |
| 22 | | | |
| 23 | SOLDER, LOW MELTING POINT | 57-98 | DRG. 75-4-101 |
| 24 | SILVER SOLDER | AXS-741 | DRG. 75-4-101 |
| 25 | SHIPMENTS, MARKING, STANDARD SPECIFICATION FOR | 100-2 | AXS-946 |
| 26 | STEEL, SHEET OR STRIP CARBON AND ALLOY | 57-136 | DRG. 75-4-101 |
| 27 | STEEL, CARBON AND ALLOY, BARS | 57-107 | DRG. 75-4-101 |
| 28 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

CLASSIFICATION CHANGED TO RESTRICTED
BY AUTHORITY OF OCM 28584
BY LT. COL. *Angell* 8-15-45

| | | | |
|---|-------------|----------|---------------|
| PROJECTILE, A.P., 155MM., M112 AND M112B1. LIST OF PARTS AND LIST OF SPECS. | | | |
| OCTOBER 20, 1941 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 4 | 101A |
| 1 12-16-41 | | | |
| 2 5-20-42 | | | |
| 3 6-2-43 | | | |
| 4 8-15-45 | | | |
| DRG PERTAINS TO | | | |
| 75-4-101 | DESIGNED | TRACED | LOC. DESIGNED |
| | KL.B.A.M.P. | | KL |
| SUBMITTED: <i>Michelson</i> | | | |
| EXAMINED: <i>Michelson</i> | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>Michelson</i> | | | |
| D | | | |
| ORDNANCE DEPT. U.S.A. | | | |

RESTRICTED

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE Espionage Laws, Title 18, U.S.C. 503 AND 504, ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

| LIST OF PARTS | | | | | | | | | |
|---------------|----------------------------|---------------------------------|----------------|--------------------|---------------------------|------------------|-----------------------------------|--|----------|
| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE- MARK | MATERIAL | | | APPROXIMATE WEIGHT (POUNDS) | APPROX GROSS WT OF RAW STOCK MATERIAL ASSEMBLED | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | | | |
| 1 | METAL PARTS ASSEMBLY M84BI | | 75-4-105B | | | | 23.76 | | |
| 2 | BAND, ROTATING | 1 | 75-4-111B | TUBING | GILDING METAL | CLASS B | 50-27-1 | .45 | |
| 3 | | | | | | | | | |
| 4 | BODY, SHELL M84BI | 1 | 75-4-111D | FORGING | STEEL | WD 853 | 5T-104-2 | 21.02 | (d) |
| 5 | | | | | | | | | |
| 6 | GASKET | 1 | 75-4-111E | STRIP | COPPER | CLASS A | QQ-C-501 | .08 | (b) |
| 7 | | | | | | | | | |
| 8 | PLATE, BAFFLE | 1 | 75-4-111H | STRIP | STEEL, COLD-ROLLED | WD1010 TO WD1035 | 5T-136 | .23 | (Pa)(Py) |
| 9 | PLUG, BASE | 1 | 75-4-111C | BAR | STEEL | WD1035 TO WD1045 | 5T-10T | 1.98 | (a) |
| 10 | | | | | | | | | |
| 11 | | | | | GREASE, SHELL | | 50-11-3T | | |
| 12 | | | | | | | | | |
| 13 | | | | | LACQUER ENAMEL, BLUE GRAY | I | JAN-L-73 | | (c) |
| 14 | | | | | PAINT ACID-PROOF BLACK | TYPE I | 3-106 | | (c)(e) |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |

(a)- ALTERNATIVE - STEEL, PLATE, WD1035 TO WD1045 CHEMICAL COMPOSITION TO BE IN ACCORDANCE WITH SPEC. 5T-10T OR STEEL CROSS FORGED WD1010, OR WD1035 SPEC. 5T-105
(b)- ALTERNATIVE - COMMERCIAL BRASS, STRIP COMPOSITION "C," SOFT, SPEC. QQ-B-611
(c)- ALTERNATIVE - ENAMEL BLUE GRAY, GRADE I, SPEC. JAN-E-74
(d)- SPEC. 5T-104-1 IS MANDATORY FOR MATERIAL FOR FORGING.
(e)- ALTERNATIVE - LACQUER ENAMEL, BLUE GRAY, GRADE I, JAN-L-73
(f)- FINISHES PROTECTIVE FOR IRON AND STEEL PARTS SPEC. 5T-O-2
(Pa) TYPE I, LS OR LSC
(Py) TYPE I, OS

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|--------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM GEN SPEC. FOR | 50-O-1 | DRG 75-4-111 |
| 2 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG 75-4-111 |
| 3 | BRASS, COMMERCIAL; BARS, PLATES, RODS, SHAPES, SHEET & STRIPS | QQ-B-611 | DRG 75-4-111 |
| 4 | CLEANING AND PREPARATION OF METAL SURFACES | AXS-1245 | DRG 75-4-105 |
| 5 | COPPER; BARS, PLATES; RODS, SHAPES, SHEETS, AND STRIPS | QQ-C-501 | DRG 75-4-111 |
| 6 | FORGINGS, LIGHT, DROP AND MISCELLANEOUS, STEEL, ETC | 5T-105 | DRG 75-4-111 |
| 7 | GREASE, SHELL | 50-11-3T | DRG 75-4-111 |
| 8 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG 75-4-111 |
| 9 | | | |
| 11 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DRG 75-4-105 |
| 12 | FINISHES, PROTECTIVE, FOR IRON AND STEEL PARTS | 5T-O-2 | DRG 75-4-111 |
| 13 | | | |
| 14 | METALS; GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 5T-10T |
| 15 | | | |
| 16 | PAINT, ACID-PROOF BLACK, FOR AMMUNITION | 3-106 | DRG 75-4-105 |
| 17 | PAINTS AND RELATED MATERIALS GENERAL SPEC'S. FOR | 3-1 | 3-162 |
| 18 | SHELL, SMOKE, BASE EJECTION TYPE, METAL PARTS FOR | AXS-87T | DRG 75-4-105 |
| 19 | | | |
| 20 | FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL | 5T-104-2 | DRG 75-4-111 |
| 21 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG 75-4-105 |
| 22 | STEEL, CARBON AND ALLOY, BARS | 5T-10T | DRG 75-4-111 |
| 23 | STEEL, CARBON AND ALLOY, SHEETS AND STRIPS | 5T-136 | DRG 75-4-111 |
| 24 | STEEL, FORGING; FOR SHELL STOCK | 5T-104-1 | DRG 75-4-111 |
| 25 | | | |

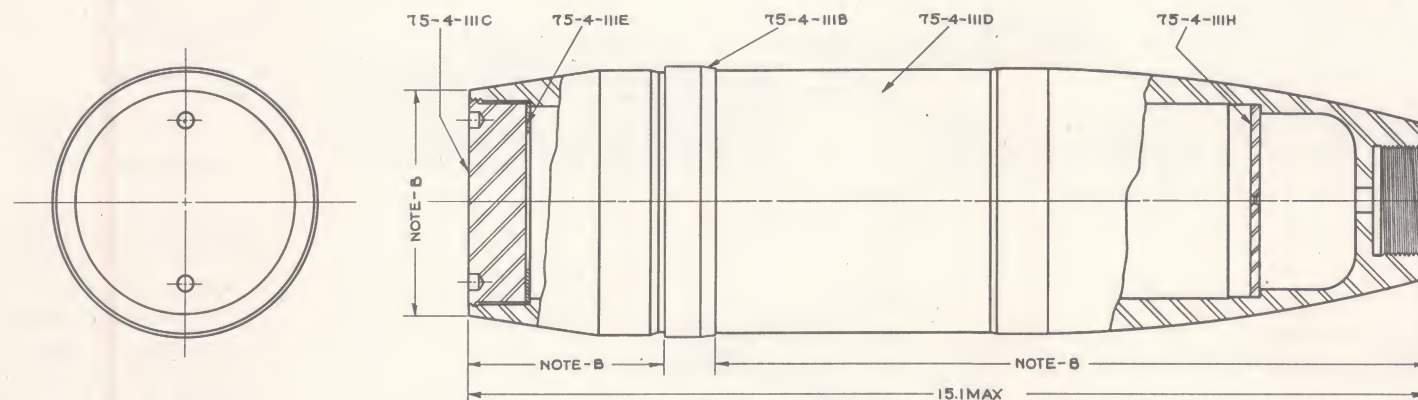
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| WEIGHTS | | DESIGN DATA | |
|----------------|-------------|------------------------|--------|
| PARTS | M84BI | PART | POUNDS |
| | POUNDS | METAL PARTS ASSEMBLY | 23.76 |
| BODY, SHELL | 21.02 | CHARGE BURSTING | .14 |
| BAND, ROTATING | .45 | SPACERS (4 REQUIRED) | .04 |
| GASKET | .08 | SMOKE ASSEMBLY (3) | 7.50 |
| PLATE, BAFFLE | .23 | FILLER | .01 |
| PLUG, BASE | 1.98 | FUZE, TIME & S.Q., M54 | 1.42 |
| TOTAL | 23.76 ± .60 | TOTAL | 32.87 |

| LIST OF DRAWINGS | DRAWING NUMBER |
|--------------------------------|----------------|
| METAL PARTS ASSEMBLY | 75-4-105 |
| DETAILS | 75-4-111 |
| BLANKS ROTATING BAND TYPE 105A | (e) 75-14-41 |

(e) DESIGN SHOWN NOT MANDATORY.

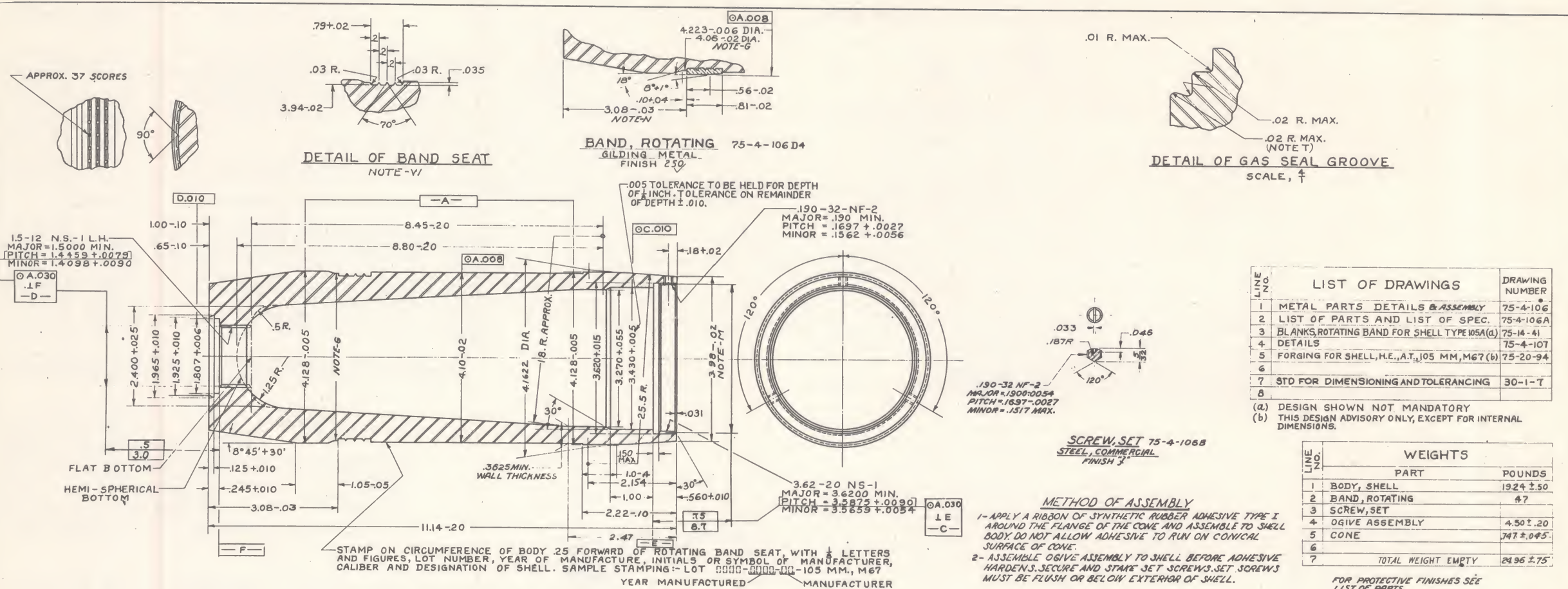
SUPERSEDES 75-4-105 WITH CHANGE AUG. 15, 1945



NOTES:-
A- COAT INTERIOR SURFACE OF BASE PLUG AND SHELL BODY, EXCEPT THREADS AND BASE PLUG SEAT WITH ACIDPROOF BLACK PAINT, TYPE I, OR BLUE GRAY LACQUER ENAMEL OR ENAMEL.
B- COAT ENTIRE EXTERIOR SURFACE, EXCEPT ROTATING BAND WITH BLUE GRAY LACQUER ENAMEL OR ENAMEL.
D- SHIP BASE PLUG, GASKET AND BAFFLE PLATE UNASSEMBLED

SCALE 1

| | | | |
|--|--|----------|---------------|
| SHELL, SMOKE 105MM, M84BI BASE EJECTION METAL PARTS ASSEMBLY | | | |
| FEBRUARY 16, 1942 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 4 | 105 |
| 4 8-15-45 | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ± | | |
| DRG. PERTAINS TO | CHECKER | TRACER | ORD. ENGINEER |
| | W.H. | A.F.H. | W.H. |
| SUBMITTED | SUBMITTED | | |
| EXAMINED: <i>W.D. Stevenson</i> ORD. DEPT. U.S.A. | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>C. Adairman</i> ORD. DEPT. U.S.A. | | | |
| D | | | |
| ORDNANCE DEPT., U.S.A. | | | |



| LINE NO | LIST OF DRAWINGS | DRAWING NUMBER |
|---------|--|----------------|
| 1 | METAL PARTS DETAILS & ASSEMBLY | 75-4-106 |
| 2 | LIST OF PARTS AND LIST OF SPEC. | 75-4-106A |
| 3 | BLANKS, ROTATING BAND FOR SHELL TYPE 105A(4) | 75-4-41 |
| 4 | DETAILS | 75-4-107 |
| 5 | FORGING FOR SHELL, H.E., A.T., 105 MM, M67 (b) | 75-20-94 |
| 6 | | |
| 7 | STD FOR DIMENSIONING AND TOLERANCING | 30-1-7 |
| 8 | | |

(a) DESIGN SHOWN NOT MANDATORY
(b) THIS DESIGN ADVISORY ONLY, EXCEPT FOR INTERNAL DIMENSIONS.

| LINE NO | PART | POUNDS |
|---------|--------------------|-------------|
| 1 | BODY, SHELL | 19.24 ± .50 |
| 2 | BAND, ROTATING | .47 |
| 3 | SCREW, SET | |
| 4 | OGIVE ASSEMBLY | 4.50 ± .20 |
| 5 | CONE | 747 ± .045 |
| 6 | | |
| 7 | TOTAL WEIGHT EMPTY | 24.96 ± .75 |

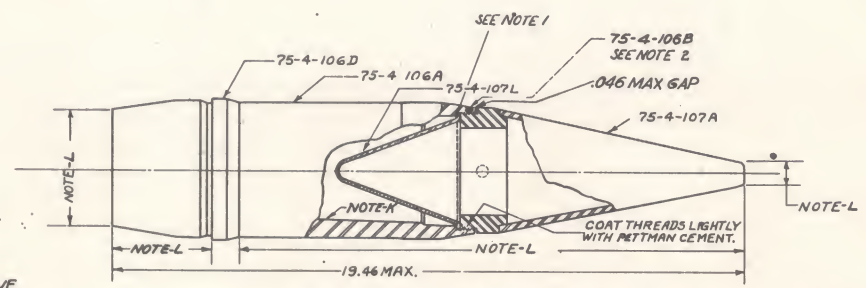
FOR PROTECTIVE FINISHES SEE LIST OF PARTS.

SUPERSEDES OLD TRACING 75-4-106 UNDER REVISION DATE OF SEPT. 9, 1944

SHELL, HE, AT, 105 MM, M67 METAL PARTS ASSEM. & DETAILS.

| | | | | | |
|------------------|---------|--|----------|---------|------|
| MAY 4, 1942 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 4 | 106 | |
| 1 | 3-22-43 | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMALS FRACTIONAL ANGULAR | | | |
| 2 | 9-9-44 | | | | |
| 3 | 15-4-5 | | | | |
| 4 | 5-12-49 | | | | |
| 5 | 7-19-50 | | | | |
| DRG. PERTAINS TO | | DESIGNED BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> SUBMITTED BY: <i>[Signature]</i> EXAMINED BY: <i>[Signature]</i> APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>[Signature]</i> 75-4-106A D | | | |
| | | ORDNANCE DEPT. U.S.A. | | | |

- NOTES:-**
- A- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
 - B- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES.
 - C- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
 - D- BEFORE PAINTING, CLEAN SHELL SURFACES IN ACCORDANCE WITH GRADE I, SPEC JAN-C-490.
 - E- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
 - F- BAND RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDING.
 - G- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET SHALL NOT EXCEED .044
 - H- COAT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE TOR II (EXCEPT THREADS) THREADS MAY SHOW TRACES OF PAINT PROVIDING THEY PASS GAGES.
 - I- COAT ENTIRE EXTERIOR SURFACE OF SHELL (EXCEPT ROTATING BAND) WITH ONE COAT OF LACQUER ENAMEL OR ENAMEL OLIVE DRAB.
 - J- UNION MUST BE FLUSH, OR MUST OVERLAP SHELL BODY OGIVE (398-.02 DIA) ON ENTIRE CIRCUMFERENCE.
 - K- REAR FACE OF ROTATING BAND SHALL BE ±.02 FROM REAR EDGE OF BAND SEAT.
 - L- REMOVE ALL BURRS.
 - M- .025 MAX FLAT PERMITTED WHEN MEASURED FROM BASE OF SHELL.
 - N- RIBS HAVING DEFECTIVE SECTIONS NOT OVER 10% OF TOTAL LENGTH OF ALL RIBS WILL BE ACCEPTABLE. ACCUMULATED LENGTH OF DEFECTIVE OR MISSING RIBS MAY BE CONFINED TO ONE RIB, OR MAY BE DISTRIBUTED OVER ALL RIBS.
 - O- BOURRELET, AFTER PAINTING, SHALL PASS 4.130 RING GAGE.



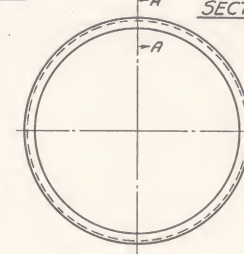
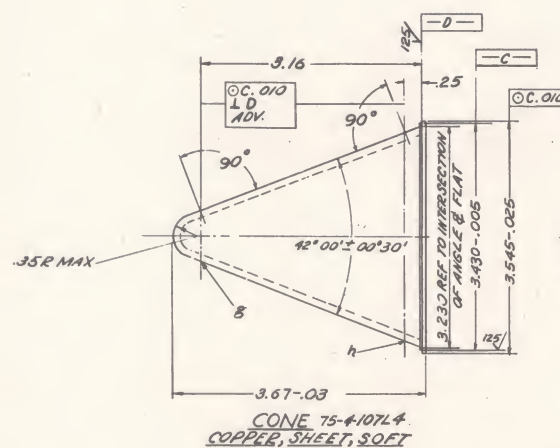
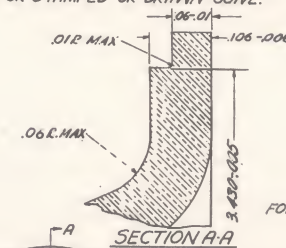
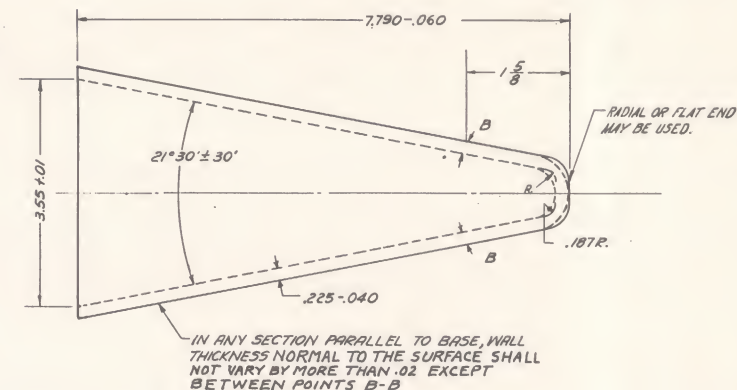
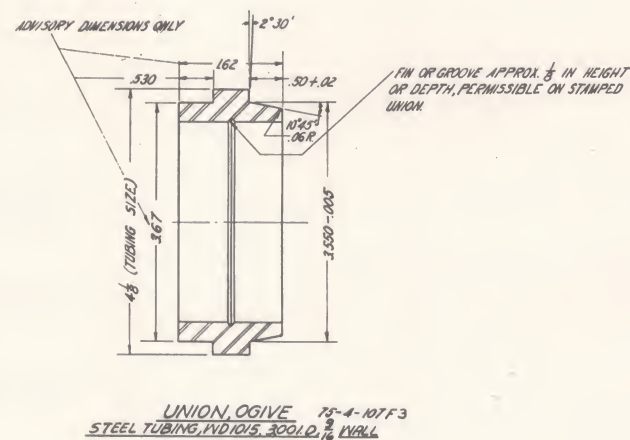
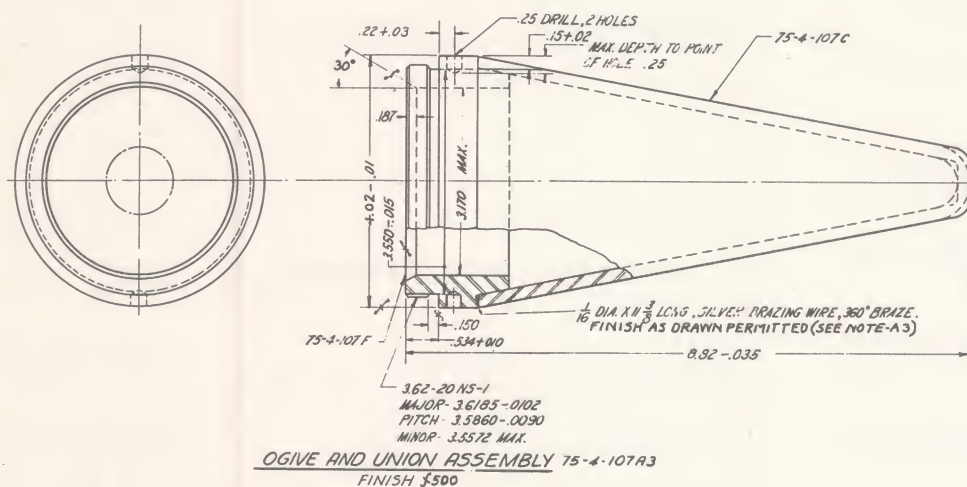
| LIST OF PARTS | | | | | | | | | |
|---------------|--------------------------|---------------------------|-----------|------------------|----------------------------------|-----------------|----------------------------------|--|---------|
| LINE NUMBER | NAME OF PART | NUMBER REQ. PER COMPONENT | PIECEMARK | MATERIAL | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | |
| 1 | METAL PARTS ASSEMBLY | | 75-4-106F | | | | | 24.96±.75 | |
| 2 | OGIVE AND UNION ASSEMBLY | | 75-4-107A | | | | | 4.5±.20 | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | BAND, ROTATING | 1 | 75-4-106D | TUBING | GILDING METAL | ANNEALED | 50-27-1 | .47 | |
| 7 | BODY, SHELL | 1 | 75-4-106A | FORGING 75-20-94 | STEEL | WD.55-3 | 57-104-2 | 1.9±.22 2.150 | (b) |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | CONE | 1 | 75-4-107L | SHEET | COPPER | SOFT | QQ-C-501 | 747±.045 | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | OGIVE | 1 | 75-4-107C | SHEET | STEEL, COLD ROLLED, ANNEALED | WD.1010 OR 1015 | 57-136 | | (c) |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | SCREW, SET | 3 | 75-4-106B | BAR | STEEL, .190 DIA. (32NF-2) × 5/32 | | COMMERCIAL | | (pa) |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | UNION, OGIVE | 1 | 75-4-107F | TUBING | STEEL | WD.1015 | 57-180 | | (a) |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | LACQUER ENAMEL, OLIVE DRAB | I | JAN-L-73 | | (k) |
| 34 | | | | | | | | | |
| 35 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | JAN-P-450 | | |
| 36 | | | | | ADHESIVE, SYNTHETIC RUBBER | TYPE I | 62-4 | | |
| 37 | | | | | SYNTHETIC PRIMER | | JAN-P-72 | | |
| 38 | | | | | | | | | |
| 39 | | | | | SOLDER, SILVER WIRE | CLASS 4 | QQ-3-561 | | (m) |
| 40 | | | | | | | | | |
| 41 | | | | | FLUX, BRAZING (SILVER) | | 4-1121 | | |
| 42 | | | | | CEMENT, PETTMAN | | JAN-C-99 | | |
| 43 | | | | | | | | | |
| 44 | | | | | | | | | |
| 45 | | | | | | | | | |
| 46 | | | | | | | | | |
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| 65 | | | | | | | | | |
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| 67 | | | | | | | | | |

- (a) ALTERNATIVE MATERIAL:-
STEEL FORGING WD.1015 TO
WD.1035 OR WDX 1314 TO
WDX 1315, SPEC. 57-105
- (b) SPECIFICATION 57-104-1 IS
MANDATORY FOR MATERIAL
FOR FORGING
- (c) ALTERNATIVE MATERIAL:-
SHEET STEEL, HOT ROLLED,
ANNEALED, PICKLED, WD.1010
OR WD.1015 SPEC. 57-136
- (K) ALTERNATIVE MATERIAL:- ENAMEL,
OLIVE DRAB, GRADE I, SPEC. JAN-E-74.
- (m) ALTERNATIVE MATERIAL:-
COPPER BRAZE (COMMERCIAL)
- (p) PROTECTIVE FINISHES, SPEC. 57-0-2
(pa) TYPE I CLASS RS OR TS

| LINE NO. | LIST OF SPECIFICATIONS | SPECIFICATION NUMBER | REQUIRED BY |
|----------|--|----------------------|--------------|
| 1 | ADHESIVE, SYNTHETIC RUBBER (HOT OR COLD BONDING) | 62-4 | DRG 75-4-106 |
| 2 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECS FOR | 50-0-1 | DRG 75-4-106 |
| 3 | | | |
| 4 | COPPER, BARS, PLATES, RODS, SHAPES, SHEETS, AND STRIPS | QQ-C-501 | DRG 75-4-107 |
| 5 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG 75-4-106 |
| 6 | CLEANING AND PREPARATION OF FERROUS METAL SURFACES FOR ORGANIC PROTECTIVE COATINGS | JAN-C-490 | DRG 75-4-106 |
| 7 | CEMENT, PETTMAN | JAN-C-99 | DRG 75-4-107 |
| 8 | ENAMEL, LUSTRELESS, QUICK-DRYING. | JAN-E-74 | DRG 75-4-106 |
| 9 | FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 | DRG 75-4-106 |
| 10 | FORGINGS, LIGHT, DROP AND MISCELLANEOUS STEEL, CARBON AND ALLOY | 57-105 | DRG 75-4-107 |
| 11 | | | |
| 12 | FINISHES, PROTECTIVE, FOR IRON AND STEEL PARTS | 57-0-2 | DRG 75-4-106 |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | LACQUER, ENAMEL, LUSTRELESS. | JAN-E-73 | DRG 75-4-106 |
| 20 | | | |
| 21 | | | |
| 22 | METALS, GENERAL SPECIFICATIONS FOR INSPECTION OF | QQ-M-151 | 57-136 |
| 23 | | | |
| 24 | | | |
| 25 | | | |
| 26 | PAINT, ACID-PROOF, BLACK FOR AMMUNITION | JAN-P-450 | DRG 75-4-106 |
| 27 | PRIMER, SYNTHETIC, LACQUER, RESISTING. | JAN-P-72 | DRG 75-4-107 |
| 28 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 | JAN-L-73 |
| 29 | | | |
| 30 | SHELL, H E, AT, 105 MM, M67, METAL PARTS FOR | PX5-988 | DRG 75-4-106 |
| 31 | SHELL, STEEL, MANUFACTURED FROM FORGINGS | 50-30-1 | DRG 75-4-106 |
| 32 | | | |
| 33 | STEEL, FORGING FOR SHELL STOCK | 57-104-1 | DRG 75-4-106 |
| 34 | STEEL, CARBON AND ALLOY, SHEETS AND STRIPS | 57-136 | DRG 75-4-107 |
| 35 | SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR | 100-2 | PX5-988 |
| 36 | | | |
| 37 | TUBING, MACH. OR STRUCT. STEEL, CARBON & ALLOY, SEAMLESS, WELDING & BRAZ. | 57-180 | DRG 75-4-107 |
| 38 | SOLDER, SILVER | QQ-3-561 | DRG 75-4-107 |
| 39 | FLUX, BRAZING, (SILVER) | 4-1121 | DRG 75-4-107 |
| 40 | | | |
| 41 | | | |
| 42 | | | |
| 43 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| | | | |
|--|--------------|----------------|----------|
| SHELL, H E, AT, 105 MM, M67 | | | |
| LIST OF PARTS AND | | | |
| LIST OF SPECIFICATIONS | | | |
| MAY 4, 1942 | | CLASS | DIVISION |
| REVISIONS | | 75 | 4 106A |
| 1 3-22-43 | | SYMBOL | |
| 2 9-9-44 | | | |
| 3 8-15-45 | | | |
| 4 5-12-49 | | | |
| 5 7-19-50 | | | |
| OFFSHAN | TRACER | LUG OFFSHAN | |
| VF | FELIX KURTIN | W. C. H. H. H. | |
| CHECKER | CHECKER | CHIEF OFFSHAN | |
| TS | TS | TS | |
| SUBMITTED:- | | | |
| DRG PERTAINS TO | | | |
| EXAMINE D: | | | |
| LT. COL. ORD. DEPT. U.S.A. | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | |
| COL. ORD. DEPT. U.S.A. | | | |
| D ORDNANCE OFFICE, WAR DEPT. | | | |



SCALE 1/16"

NOTES:-

A- FOR 75-4-107A ONLY

- 1 - COAT INTERIOR SURFACE WITH ONE COAT SYNTHETIC PRIMER AND EXTERIOR SURFACE WITH ONE COAT LACQUER ENAMEL OR ENAMEL, OLIVE DRAB (EXCEPT THREADS) THREADS MAY SHOW TRACES OF PAINT PROVIDING THEY PASS GAGES.
- 2 - PERMISSIBLE ECCENTRICITY BETWEEN PITCH DIAMETER OF THREADS AND ANY POINT ON EXTERIOR SURFACE OF OGIVE AND UNION ASSEMBLY, .015 INCH (B)
- 3 - OGIVE MUST BLEND WITH UNION FLANGE AFTER ASSEMBLY (SEE NOTE-C)

B- FOR 75-4-107L ONLY

- (a) THICKNESS (MEASURED PERPENDICULAR TO CONE SURFACE) OF THE CONE WALL BETWEEN PLANES THROUGH POINTS B AND h SHALL BE .103±0.006
- (b) THICKNESS (MEASURED PERPENDICULAR TO CONE SURFACE) OF WALL SHALL NOT VARY MORE THAN .006 IN 360° AT ANY GIVEN PLANE (PARALLEL TO SURFACE "D" OF FLANGE) BETWEEN POINTS B AND h
- (c) COAT INTERIOR AND EXTERIOR SURFACES WITH ACID-PROOF BLACK PAINT, TYPE I OR II.

C-

CONICAL CONTOUR IS PERMITTED AT FORWARD END OF UNION FLANGE BUT SHALL NOT EXTEND ON TO THE FLANGE FOR MORE THAN 1/8 INCH.

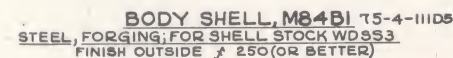
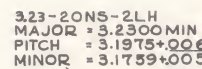
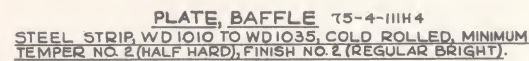
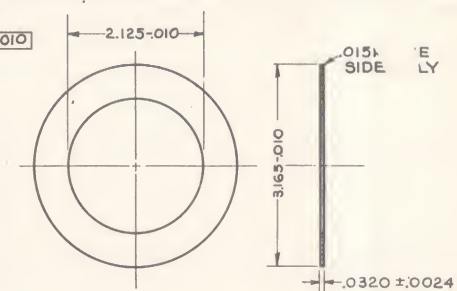
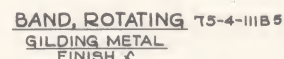
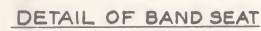
FOR ALTERNATIVE MATERIALS, SEE LIST OF PARTS.

SUPERSEDES OLD TRACING 75-4-107, UNDER REVISION DATE OF SEPT. 9, 1944.

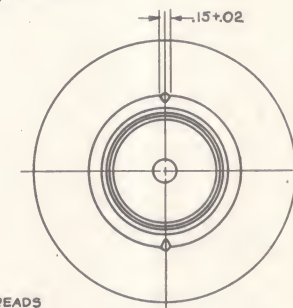
SHELL, H.E.A.T., 105 MM, M67.

DETAILS

| MAY 4, 1942 | | CLASS | DIVISION | DRAWING | FILE |
|---|---------|-------|----------|---------|------|
| REVISIONS | | 75 | 4 | 107 | |
| 1 | 3-22-43 | | | | |
| 2 | 9-9-44 | | | | |
| 3 | 8-15-45 | | | | |
| 4 | 7-19-50 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL 2 | | | | | |
| FRACTIONAL 2 | | | | | |
| ANGULAR 2 | | | | | |
| DRG. PERTAINS TO | | | | | |
| SUBMITTED: | | | | | |
| EXAMINED: | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | | |
| 75-4-106A | | | | | |
| D | | | | | |
| ORDNANCE DEPT., U.S.A. | | | | | |



1.7-14 NS-1 (NON STD*)
MAJOR = 1.7000 MIN
PITCH = 1.6536 ± .0102
MINOR = 1.6227 ± .0100*



SHELL, SMOKE, 105 MM, M84BI
BASE EJECTION
DETAILS

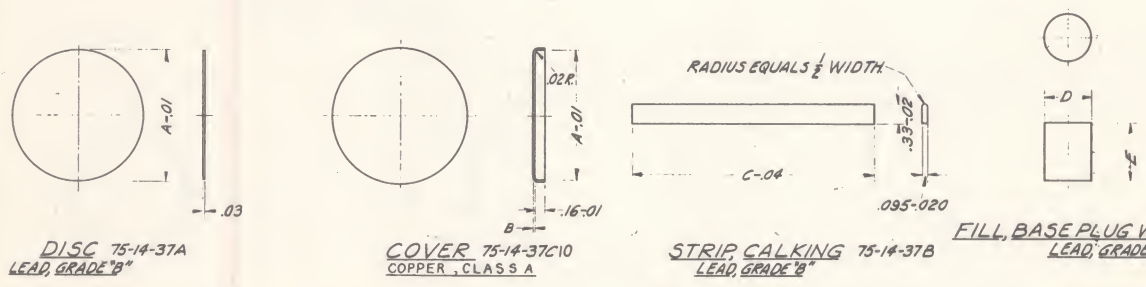
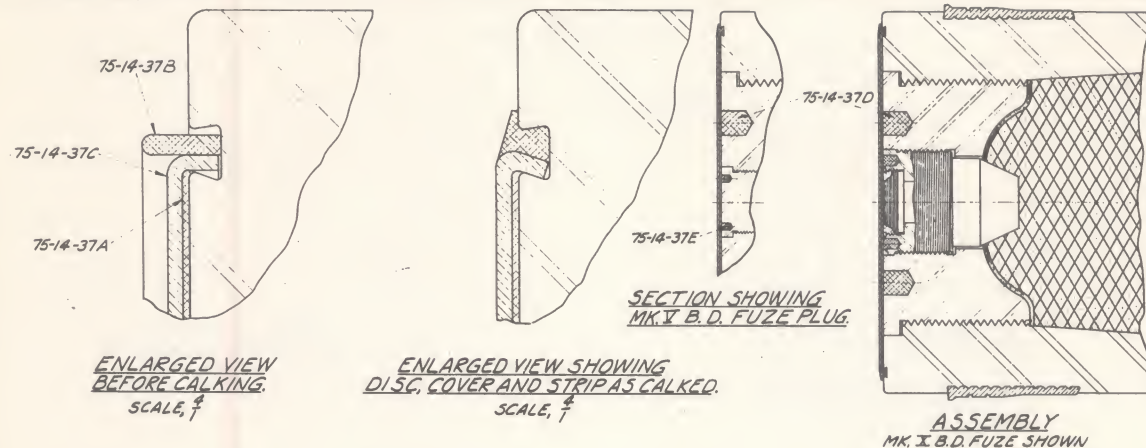
| | | | | | | | |
|------------------|---------|--|--|---|----------|---------|------|
| DECEMBER 1, 1942 | | | | CLASS | DIVISION | DRAWING | FILE |
| REVISONS | | | | 75 | 4 | III | |
| 4 | 8-15-45 | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| 5 | 5-11-50 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| DRG. PERTAINS TO | | | | D'TSMAN A.F.H. TRACER A.F.H. 3RD. ENGINE 2nd CHECKER 2nd HEAD ENGINE 2nd SUBMITTED: <i>Ampleigh</i> U.S. COL. ORD. DEPT. U.S.A. | | | |
| | | | | EXAMINED: <i>W. B. Stevenson</i> ORD. DEPT. U.S.A. | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE. <i>A. Adelman</i> ORD. DEPT. U.S.A. | | | |
| D | | | | ORDNANCE DEPT., U.S.A. | | | |

SAMPLE:- 00-0-00-0000 105 MM, M84BI
 LOT NUMBER → YEAR OF MANUFACTURE

N- REAR FACE OF ROTATING BAND SHALL BE A MAX DISTANCE OF ± 0.020 FROM REAR EDGE OF SHELL BAND SEAT.
P- BAND RELIEF GROOVE MAY BE MACHINED BEFORE OR AFTER BANDING.

REMOVE ALL BURRS

THIS DRAWING SHALL
NOT BE USED OR REPRODUCED
IN ANY MANNER WITHOUT THE
WRITTEN PERMISSION OF THE
U.S. GOVERNMENT

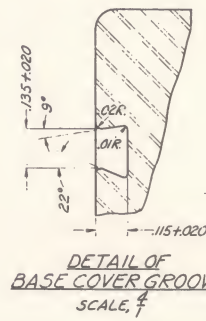


| LIST OF PARTS | | | | | | | | | |
|---------------|----------------------------------|---------------------------|------------|--------------|----------|-----------|--------------|---------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC. NUMBER | APPROXIMATE WEIGHT (LBS.) | REMARKS |
| 1 | ASSEMBLY | | | | | | | | |
| 2 | COVER | 1 | 75-14-37C | SHEET | COPPER | CLASS "A" | QQ-C-501 | | |
| 3 | DISC | 1 | 75-14-37A | SHEET | LEAD | B | QQ-L-201 | | |
| 4 | FILL, FUZE HOLE PLUG WRENCH HOLE | 2 | 75-14-37E | SHEET | LEAD | B | QQ-L-201 | | |
| 5 | FILL, BASE PLUG WRENCH HOLE | 2 | 75-14-37D | SHEET | LEAD | B | QQ-L-201 | | |
| 6 | STRIP, CALKING | 1 | 75-14-37B | SHEET | LEAD | B | QQ-L-201 | | |

SEE TOTAL WEIGHTS COLUMN IN TABLE OF DISCS, COVERS, ETC.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|---|----------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-37 |
| 2 | COPPER, BARS, PLATES, RODS, SHAPES, SHEETS AND STRIPS | QQ-C-501 | DRG. 75-14-37 |
| 3 | LEAD, SHEET | QQ-L-201 | DRG. 75-14-37 |
| 4 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | QQ-L-201 |

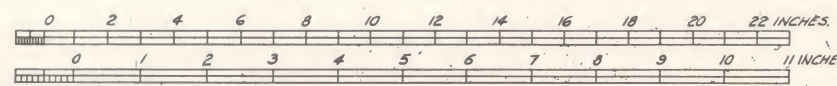
*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



| TABLE OF DISCS, COVERS, CALKING STRIPS, BASE PLUG WRENCH HOLE AND FUZE WRENCH HOLE PLUG FILLS | | | | | | | | | | | |
|---|----------------|----------------------|-----------------|------|-----|-------|------|------|-----|------|----------------|
| CALIBER | PROJ. DRG. NO. | PROJ. ASSY. DRG. NO. | BASE COVER TYPE | A | B | C | D | E | F | G | TOTAL WT. LBS. |
| 3 IN. S.C.G. | 75-5-48 | | II | 2.25 | .03 | 7.60 | | | .19 | .28 | .19 |
| 6 IN. S.C.G. | 75-7-1 | 75-14-314 | VII | 4.90 | .03 | 15.94 | .435 | .57 | .19 | .28 | .70 |
| 6 IN. G. | 75-7-3 | | VII | 4.90 | .03 | 15.94 | .435 | .57 | .19 | .28 | .70 |
| 6 IN. G. | 75-7-42 | | VII | 4.90 | .03 | 15.94 | | | | | .62 |
| 155 MM. G. | 75-4-101 | | VII | 4.90 | .03 | 15.94 | | | .30 | .40 | .63 |
| 155 MM. G. | 75-4-36 | | VI | 4.25 | .03 | 13.90 | | | | | .46 |
| 155 MM. G. | 75-4-80 | | VI | 4.25 | .03 | 13.90 | | | | | .46 |
| 155 MM. H.W. | 75-4-25 | | VI | 4.25 | .03 | 13.90 | | | | | .46 |
| 155 MM. H.W. | 75-4-37 | | VII | 4.90 | .03 | 15.94 | | | | | .62 |
| 155 MM. H.W. | 75-4-57 | | VI | 4.25 | .03 | 13.90 | | | | | .46 |
| 155 MM. H.W. | 75-4-82 | | VI | 4.25 | .03 | 13.90 | | | | | .46 |
| 8 IN. H.W. | 75-4-23 | | IX | 6.50 | .05 | 21.10 | | | | | 1.23 |
| 8 IN. H.W. | 75-4-76 | | VII | 4.90 | .03 | 15.94 | | | | | .62 |
| 8 IN. G. | 75-4-23 | | IX | 6.50 | .05 | 21.10 | | | | | 1.23 |
| 8 IN. G. | 75-8-3 | | IX | 6.50 | .05 | 21.10 | .61 | .76 | .24 | .30 | 1.42 |
| 8 IN. G. | 75-8-4 | | IX | 6.50 | .05 | 21.10 | .72 | 1.10 | .24 | .30 | 1.60 |
| 8 IN. G. | 75-4-87 | | VII | 4.90 | .03 | 15.94 | | | | | .62 |
| 8 IN. G. | 75-4-239 | 75-14-239 | IX | 6.50 | .05 | 21.10 | .62 | | | | 1.32 |
| 8 IN. G. | 75-4-239 | 75-14-239 | IX | 6.50 | .05 | 21.10 | .64 | .30 | .40 | .136 | 1.77 |
| 240 MM. H.W. | 75-4-72 | | IX | 6.50 | .05 | 21.10 | | | | | 1.23 |
| 10 IN. S.C.G. | 75-9-1 | | X | 8.00 | .05 | 25.80 | .72 | 1.10 | .24 | .30 | 2.15 |
| 10 IN. S.C.G. | 75-9-13 | | X | 8.00 | .05 | 25.80 | .72 | 1.10 | .24 | .30 | 2.15 |
| 10 IN. S.C.G. | 75-9-16 | | X | 8.00 | .05 | 25.80 | | | | | 1.77 |

| TABLE (CONTINUED) | | | | | | | | | | | |
|-------------------|----------------|----------------------|-----------------|--------|-----|-------|-----|------|-----|-----|----------------|
| CALIBER | PROJ. DRG. NO. | PROJ. ASSY. DRG. NO. | BASE COVER TYPE | A | B | C | D | E | F | G | TOTAL WT. LBS. |
| 12 IN. MONTAG | 75-10-26 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | .24 | .30 | 3.36 |
| 12 IN. MONTAG | 75-10-27 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | .24 | .30 | 3.36 |
| 12 IN. MONTAG | 75-12-3 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-4 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-24 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-29 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-30 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-41 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | .24 | .30 | 3.36 |
| 12 IN. MONTAG | 75-12-42 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. MONTAG | 75-12-46 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-1 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-3 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-13 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-20 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-21 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-22 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-27 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | .24 | .30 | 3.36 |
| 12 IN. S.C.G. | 75-10-29 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 2.93 |
| 12 IN. S.C.G. | 75-10-34 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-35 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-36 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-37 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-39 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-40 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-11-42 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-11-43 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-44 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 12 IN. S.C.G. | 75-10-45 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |

| TABLE (CONTINUED) | | | | | | | | | | | |
|-------------------|----------------|----------------------|-----------------|--------|-----|-------|-----|------|---|---|----------------|
| CALIBER | PROJ. DRG. NO. | PROJ. ASSY. DRG. NO. | BASE COVER TYPE | A | B | C | D | E | F | G | TOTAL WT. LBS. |
| 14 IN. S.C.G. | 75-11-9 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-10 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-11 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-12 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-15 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-16 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-17 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-27 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-32 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-36 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-39 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 14 IN. S.C.G. | 75-11-44 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |
| 16 IN. S.C.G. | 75-11-28 | | XII | 13.00 | .05 | 41.50 | .72 | 1.10 | | | 4.70 |
| 16 IN. S.C.G. | 75-11-37 | | XII | 13.00 | .05 | 41.50 | .72 | 1.10 | | | 4.70 |
| 16 IN. S.C.G. | 75-11-43 | | XII | 13.00 | .05 | 41.50 | .72 | 1.10 | | | 4.70 |
| 16 IN. S.C.G. | 75-11-46 | | XII | 13.00 | .05 | 41.50 | .72 | 1.10 | | | 4.70 |
| 16 IN. S.C.G. | 75-14-315 | | XI | 10.625 | .05 | 34.06 | .72 | 1.10 | | | 3.35 |



SUPERSEDES OLD TRACING 75-14-37 AND IN PART 75-14-38 UNDER REVISION DATE OF JULY 20, 1940

COVERS, BASE, AND WRENCH HOLE FILLS FOR PROJECTILES.

APRIL 15, 1914

REVISIONS

| | | | |
|---|----------|----|---------|
| 5 | 10-8-18 | 10 | 8-15-45 |
| 6 | 7-20-40 | | |
| 7 | 11-25-41 | | |
| 8 | 1-30-42 | | |
| 9 | 3-10-42 | | |

CLASS 75 DIVISION 14 DRAWING 37

SYMBOL

DRG. PERTAINS TO

OFFMAN H.P.F. TRACER H.P.F. ENGINEER

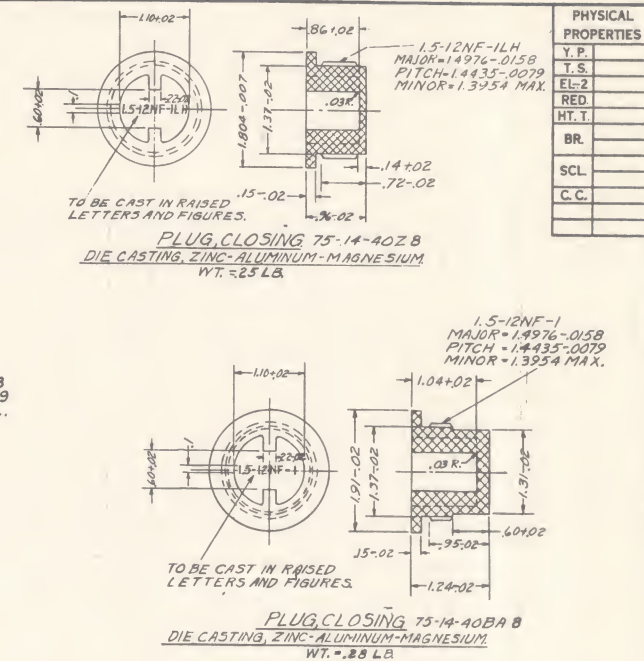
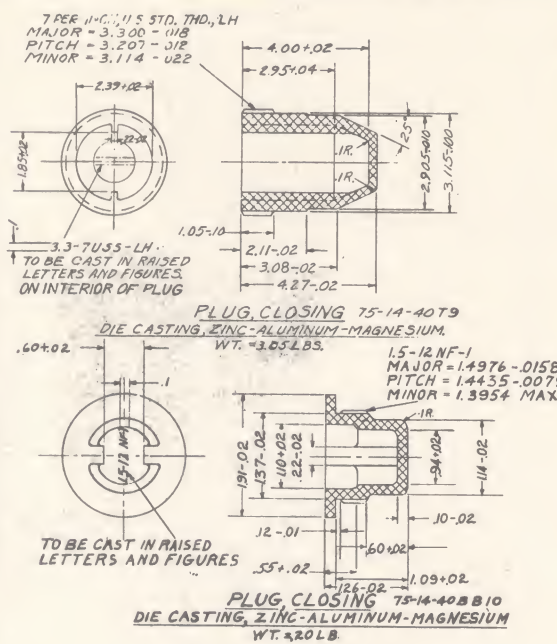
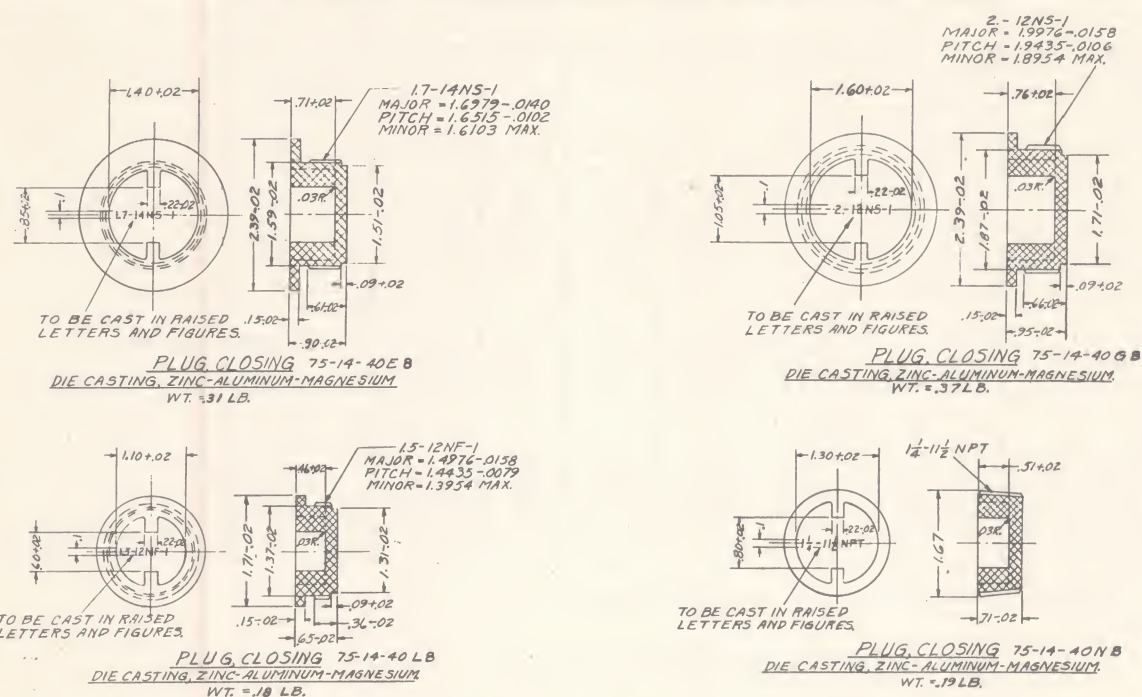
CHECKER L.M. CHECKER M.T. CHIEF OF DEPT. U.S.A.

SUBMITTED

EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

ORDNANCE DEPT., U.S.A.



| PHYSICAL PROPERTIES | |
|---------------------|--|
| Y. P. | |
| T. S. | |
| EL. 2 | |
| RED. | |
| HT. T. | |
| BR. | |
| SCL. | |
| C. C. | |

| SHELL OR SHRAPNEL | SHELL MARK OR M NUMBER. | | | | | | | | | | | | | | | | | | | | SHRAPNEL MARK NUMBER |
|-------------------------|-------------------------|----|-----|----|---|----|-----|------|----|---|----|-----|---|-----|-----|----|----|-----|-----|------|----------------------------|
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | I | 38M | 41M | 42 | 43 | 45 | 48 | 49M2 | I |
| 75MM | L | N | E | L | | | | | | | | L | | | | G | | | G | | E |
| 3" A.A. | E | | | | | | | | | | | | | | | | G | | | | E |
| 81MM | | | | | | | | | | | | | | | | | | G-L | G-L | | |
| 105MM | | | | | | | | | | | | | | G | G | | | | | | |
| 60MM | | | | | | | | | | | | | | | | | | | | BB | |
| 14" | | | | | | | T | | | Z | Z | | | | | | | | | | |
| 16" | | T | | | | | | | T | | | | | | | | | | | | |

NOTE:
THE ABOVE TABLE SHOWS WHERE VARIOUS PLUGS ARE USED WHEN NEEDED.
PLUGS NOT TO BE ORDERED FROM THIS TABLE.

| LIST OF SPECIFICATIONS. | | SPEC. NUMBER * | REQUIRED BY |
|-------------------------|---|-------------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-40 |
| 2 | | | |
| 3 | CASTINGS, DIE, ZINC-ALUMINUM-MAGNESIUM ALLOY | 57-93-2 | DRG. 75-14-40 |
| 4 | METAL; GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-93-2 |
| 5 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTICE: THIS DRAWING IS A REVISION OF THE DRAWING OF THE SAME NAME AND NUMBER, WHICH WAS USED IN THE DESIGN OF THE PROJECTILE.

SUPERSEDES OLD TRACING 75-14-40 UNDER REVISION DATE OF NOV. 3, 1938.

| PLUGS, CLOSING, FOR PROJECTILES. | | | |
|----------------------------------|---------|---------------|--------------|
| APRIL 2, 1917 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 14 | 40 |
| 8 11-3-38 | | | |
| 9 1-30-39 | | | |
| 10 6-16-41 | | | |
| SYMBOL | | | |
| DFTSMAN | TRACER | L'DG. DFTSMAN | |
| CHECKER | CHECKER | CHIEF DFTSMAN | |
| SUBMITTED: | | | |
| DRG. PERTAINS TO | | | |
| EXAMINED: | | | |
| VOL. ORD. DEPT. U.S.A. | | | |
| APPROVED: | | | |
| LT. COL. ORD. DEPT. U.S.A. | | | |
| ORDNANCE OFFICE, WA. DEPT. | | | |

BREAK ALL CORNERS WITH .02 R.

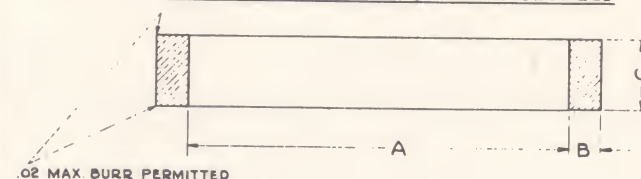
SCALE 1/2

| LINE NO. | CALIBER | TYPE | DIMENSION "A" | TOLERANCE ON DIM "A" | DIMENSION "B" | TOLERANCE ON DIM "B" | DIMENSION "C" | TOLERANCE ON DIM "C" | GROOVE WIDTH IN SHELL | MAX. WEIGHT (LBS.) GILDING METAL | COPPER | ASSEMBLED | REMARKS |
|----------|---------|-------|---------------|----------------------|---------------|----------------------|---------------|----------------------|-----------------------|----------------------------------|--------|-------------|---------|
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | 20 MM. | 20 A | .78 | + .010 | .109 | ± .005 | .185 | -.005 | .193 ± .004 | .019 | .019 | COLD | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | 37 MM. | 37 A | 1.451 | + .010 | .072 | ± .005 | .715 | -.005 | .72 ± .02 | .085 | .086 | COLD | |
| 8 | 37 MM. | 37 B | 1.451 | + .010 | .095 | ± .005 | .715 | -.005 | .72 ± .02 | .113 | .114 | COLD | |
| 9 | 37 MM. | 37 C | 1.451 | + .010 | .120 | ± .005 | .715 | -.005 | .72 ± .02 | .143 | .145 | COLD | |
| 10 | 37 MM. | 37 D | 1.451 | + .010 | .134 | ± .005 | .715 | -.005 | .72 ± .02 | .160 | .162 | COLD | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | 40 MM. | 40 A | 1.557 | + .010 | .134 | ± .010 | .61 | -.010 | .618 ± .024 | .150 | .152 | COLD | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | 57 MM. | 57 A | 2.245 | + .010 | .134 | ± .010 | .765 | -.010 | .77 ± .02 | .264 | .267 | COLD | |
| 19 | | | | | | | | | | | | | |
| 20 | 75 MM. | 75 A | 2.940 | + .010 | .134 | ± .010 | .535 | -.010 | .54 ± .02 | .239 | .242 | COLD | |
| 21 | 75 MM. | 75 B | 2.938 | + .010 | .180 | ± .010 | .465 | -.010 | .47 ± .02 | .277 | .280 | COLD | |
| 22 | 75 MM. | 75 C | 2.938 | + .010 | .203 | ± .010 | .585 | -.010 | .59 ± .02 | .393 | .398 | COLD | |
| 23 | 295 IN. | 75 D | 2.940 | + .010 | .180 | ± .010 | .535 | -.010 | .54 ± .02 | .319 | .323 | COLD | |
| 24 | | | | | | | | | | | | | |
| 25 | 3 IN. | 3 A | 2.990 | + .010 | .165 | ± .010 | .535 | -.010 | .54 ± .02 | .297 | .300 | COLD | |
| 26 | 3 IN. | 3 B | 2.990 | + .010 | .180 | ± .010 | .995 | -.010 | 1.00 ± .02 | .602 | .610 | COLD | |
| 27 | 3 IN. | 3 C | 2.990 | + .010 | .238 | ± .015 | .995 | -.010 | 1.00 ± .02 | .817 | .827 | COLD | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | 3.3 IN. | 3.3 A | 3.285 | + .010 | .220 | ± .015 | .735 | -.010 | .74 ± .02 | .609 | .610 | COLD | |
| 31 | | | | | | | | | | | | | |
| 32 | 90 MM. | 90 A | 3.550 | + .010 | .238 | ± .015 | 1.17 | -.010 | 1.18 ± .02 | 1.13 | 1.14 | COLD | |
| 33 | 90 MM. | 90 B | 3.550 | + .010 | .284 | ± .015 | 1.17 | -.010 | 1.18 ± .02 | 1.30 | 1.32 | COLD | |
| 34 | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | |
| 36 | 105 MM. | 105 A | 4.140 | + .020 | .220 | ± .015 | .785 | -.010 | .79 ± .02 | .81 | .82 | COLD | |
| 37 | 105 MM. | 105 B | 4.140 | + .020 | .259 | ± .015 | 1.395 | -.010 | 1.40 ± .02 | 1.69 | 1.71 | COLD | |
| 38 | | | | | | | | | | | | | |
| 39 | 4.5 IN. | 4.5 A | 4.50 | + .04 | .320 | ± .02 | 1.74 | -.010 | 1.75 ± .02 | 2.88 | 2.91 | COLD | |
| 40 | | | | | | | | | | | | | |
| 41 | 4.7 IN. | 4.7 B | 4.70 | + .04 | .355 | ± .02 | 2.20 | -.010 | 2.21 ± .04 | 4.21 | 4.26 | COLD | |
| 42 | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 46 | 6 IN. | 6 A | 5.98 | + .05 | .380 | ± .025 | 1.97 | -.02 | 1.98 ± .04 | 5.13 | 5.19 | COLD | |
| 47 | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | |
| 49 | 155 MM. | 155 A | 6.06 | + .05 | .284 | ± .020 | .58 | -.02 | .586 ± .016 | 1.13 | 1.14 | COLD | |
| 50 | 155 MM. | 155 B | 6.06 | + .05 | .284 | ± .020 | .58 | -.02 | .586 ± .016 | 1.14 | 1.15 | COLD | |
| 51 | 155 MM. | 155 C | 6.06 | + .05 | .284 | ± .020 | 1.22 | -.02 | 1.23 ± .04 | 2.38 | 2.41 | COLD | |
| 52 | 155 MM. | 155 D | 6.06 | + .05 | .300 | ± .020 | .58 | -.02 | .586 ± .016 | 1.19 | 1.20 | COLD | |
| 53 | 155 MM. | 155 E | 6.06 | + .05 | .340 | ± .020 | 1.97 | -.02 | 1.98 ± .04 | 4.60 | 4.66 | COLD | |
| 54 | 155 MM. | 155 F | 6.06 | + .05 | .284 | ± .020 | .97 | -.02 | .98 ± .04 | 1.89 | 1.92 | COLD | |
| 55 | | | | | | | | | | | | | |
| 56 | 8 IN. | 8 A | 7.98 | + .05 | .480 | ± .030 | 1.97 | -.02 | 1.98 ± .04 | 8.57 | 8.68 | HOT OR COLD | Ø |
| 57 | 8 IN. | 8 B | 7.95 | + .05 | .480 | ± .030 | 2.63 | -.02 | 2.64 ± .04 | 11.39 | 11.53 | HOT OR COLD | Ø |
| 58 | 8 IN. | 8 C | 8.00 | + .05 | .480 | ± .030 | 3.28 | -.02 | 3.29 ± .04 | 14.31 | 14.49 | HOT OR COLD | Ø |
| 59 | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | |

| LINE NO. | CALIBER | TYPE | DIMENSION "A" | TOLERANCE ON DIM "A" | DIMENSION "B" | TOLERANCE ON DIM "B" | DIMENSION "C" | TOLERANCE ON DIM "C" | GROOVE WIDTH IN SHELL | MAX. WEIGHT (LBS.) GILDING METAL | COPPER | ASSEMBLED | REMARKS |
|----------|---------|-------|---------------|----------------------|---------------|----------------------|---------------|----------------------|-----------------------|----------------------------------|--------|-------------|---------|
| 61 | 240 MM. | 240 A | 9.40 | + .05 | .454 | ± .030 | 1.97 | -.02 | 1.98 ± .04 | 9.46 | 9.58 | HOT OR COLD | Ø |
| 62 | 240 MM. | 240 B | 9.40 | + .05 | .520 | ± .035 | 2.47 | -.02 | 2.48 ± .04 | 13.69 | 13.87 | HOT OR COLD | |
| 63 | | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | |
| 65 | 10 IN. | 10 A | 9.95 | + .05 | .520 | ± .035 | 3.30 | -.02 | 3.31 ± .04 | | 19.56 | HOT OR COLD | Ø |
| 66 | | | | | | | | | | | | | |
| 67 | | | | | | | | | | | | | |
| 68 | 12 IN. | 12 A | 11.84 | + .05 | .454 | ± .030 | 1.22 | -.02 | 1.23 ± .04 | | 7.40 | HOT | |
| 69 | 12 IN. | 12 B | 11.84 | + .05 | .480 | ± .030 | 1.97 | -.02 | 1.98 ± .04 | | 12.64 | HOT | |
| 70 | 12 IN. | 12 C | 11.84 | + .05 | .500 | ± .030 | 1.22 | -.02 | 1.23 ± .04 | | 8.10 | HOT | |
| 71 | 12 IN. | 12 D | 11.84 | + .05 | .550 | ± .035 | 3.97 | -.02 | 3.98 ± .04 | | 29.32 | HOT | |
| 72 | | | | | | | | | | | | | |
| 73 | | | | | | | | | | | | | |
| 74 | | | | | | | | | | | | | |
| 75 | 14 IN. | 14 A | 13.81 | + .05 | .550 | ± .035 | 4.62 | -.02 | 4.63 ± .04 | | 39.48 | HOT | |
| 76 | 14 IN. | 14 B | 13.81 | + .05 | .672 | ± .040 | 4.64 | -.02 | 4.65 ± .02 | | 48.70 | HOT | |
| 77 | 14 IN. | 14 C | 13.81 | + .05 | .672 | ± .040 | 4.67 | -.02 | 4.68 ± .04 | | 49.00 | HOT | |
| 78 | | | | | | | | | | | | | |
| 79 | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | |
| 81 | 16 IN. | 16 A | 15.80 | + .05 | .660 | ± .040 | 5.30 | -.02 | 5.31 ± .04 | | 62.19 | HOT | |
| 82 | 16 IN. | 16 B | 15.80 | + .05 | .660 | ± .040 | 5.32 | -.02 | 5.33 ± .02 | | 62.37 | HOT | |
| 83 | 16 IN. | 16 C | 15.80 | + .05 | .850 | ± .050 | 5.31 | -.02 | 5.32 ± .02 | | 81.98 | HOT | |
| 84 | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | |

Ø IF ASSEMBLED HOT DIMENSION "A" MAY BE REDUCED APPROX. .9%

ROTATING BAND BLANKS FOR PROJECTILES



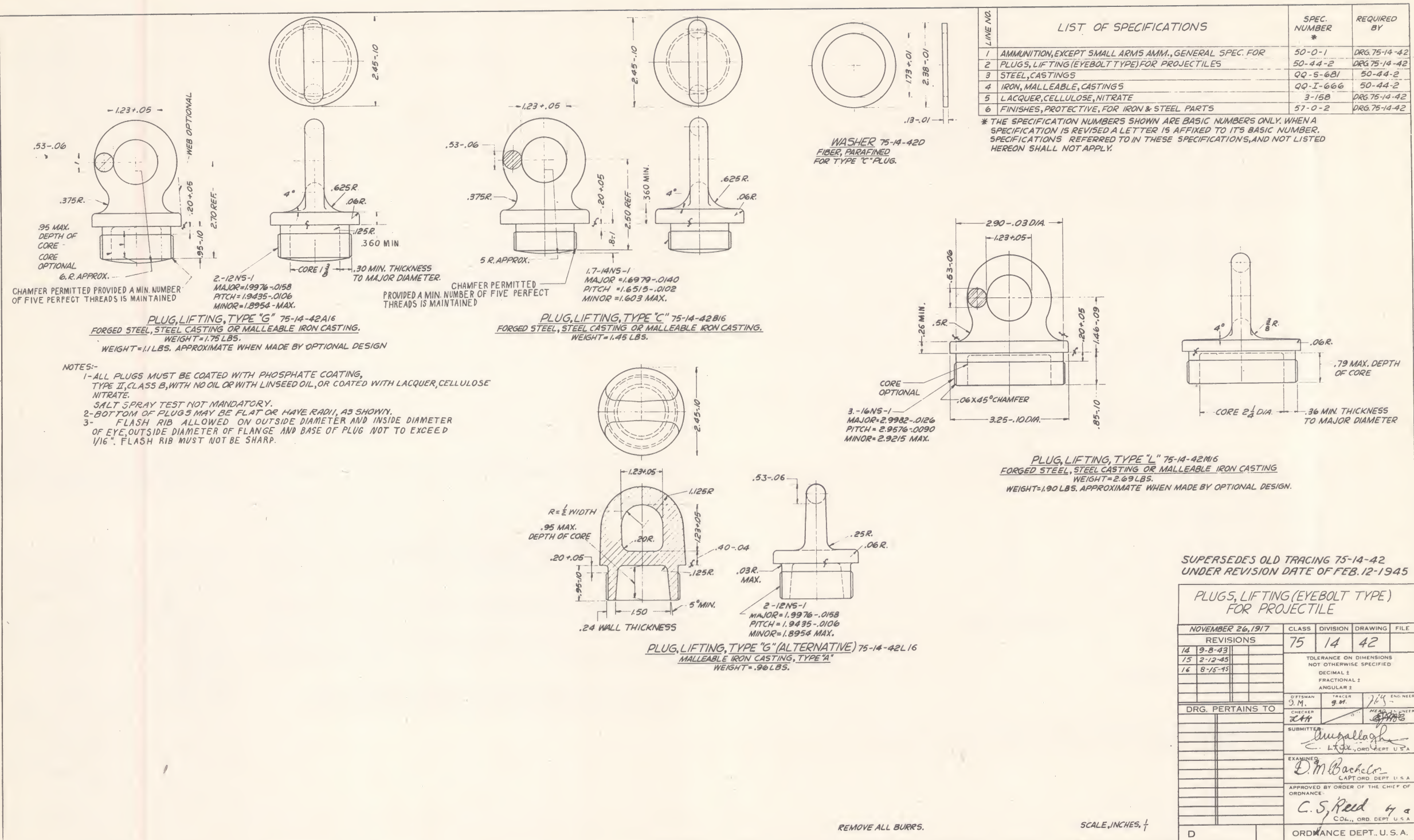
| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|--------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPECIFICATIONS FOR | 50-0-1 | DRG 75-14-41 |
| 2 | | | |
| 3 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG 75-14-41 |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QG-M-151 | 50-27-1 |
| 8 | | | |
| 9 | | | |

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SUPERSEDES OLD TRACING 75-14-41 UNDER REVISION DATE OF MARCH 1, 1941.

BLANKS, ROTATING BAND, FOR PROJECTILES

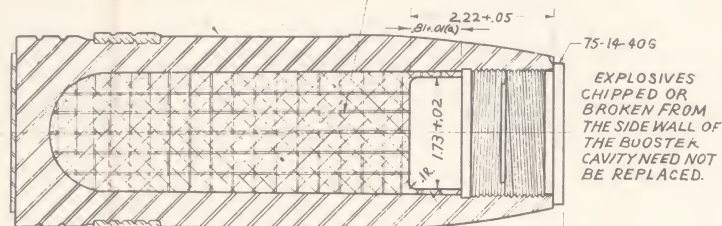
| | | | | | |
|------------------|---------|-------------|----------|---------|------|
| OCTOBER 16, 1917 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 14 41 | | | |
| 8 | 1-5-40 | | | | |
| 9 | 5-18-40 | | | | |
| 10 | 3-1-41 | | | | |
| 11 | 8-15-45 | | | | |
| DRG. PERTAINS TO | | K.L. | H.T.L. | | |
| SUBMITTED | | [Signature] | | | |
| STAMP | | [Stamp] | | | |
| APPROVED | | [Signature] | | | |
| UNREVIEWED | | [Signature] | | | |
| D | | ORDN | | | |



SUPERSEDES OLD TRACING 75-14-42
UNDER REVISION DATE OF FEB. 12-1945

| NOVEMBER 26, 1917 | | CLASS | DIVISION | DRAWING | FILE |
|---|---------|-------|----------|---------|------|
| REVISIONS | | 75 | 14 | 42 | |
| 14 | 9-8-43 | | | | |
| 15 | 2-12-45 | | | | |
| 16 | 8-15-45 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL 1 | | | | | |
| FRACTIONAL 1 | | | | | |
| ANGULAR 1 | | | | | |
| DRG. PERTAINS TO | | | | | |
| SUBMITTER | | | | | |
| EXAMINER | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | | |
| C. S. Reed | | | | | |
| COL., ORG. DEPT. U. S. A. | | | | | |
| ORDNANCE DEPT., U. S. A. | | | | | |

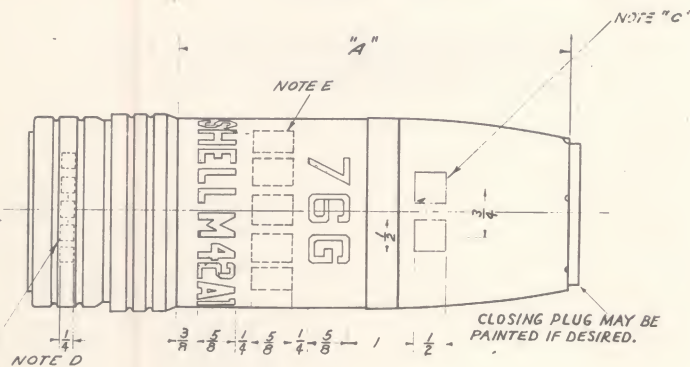
CHARGE, BURSTING 75-14-170B14
APPROX. 90 LBS. CAST COMP. B, GRADE I
75-18-33F



8.62 MAX.
SHELL LOADING ASSEMBLY 75-14-170A14
MEAN VOLUME OF CHARGE CAVITY LESS BOOSTER CAVITY IS .02 CU. INCHES
(a) THIS DIMENSION CONTROLS TOOL MANUFACTURE.

| WEIGHT ZONES | | | | |
|--------------|---------------------------|-------------------|------|--|
| ZONE | LOADED SHELL WITHOUT FUZE | | MARK | |
| | OVER | UP TO & INCLUDING | | |
| | LBS. | LBS. | | |
| 1 | 10.33 | 10.70 | | |
| 2 | 10.62 | 10.99 | | |
| 3 | 10.97 | 11.28 | | |

| APPROX. WEIGHT | | POUNDS | |
|-----------------------|--|------------|------------|
| | | TNT | COMP. B |
| SHELL WEIGHT, EMPTY | | 9.86 ± .20 | 9.86 ± .20 |
| CHARGE, BURSTING | | .86 | .90 |
| TOTAL WEIGHT, UNFUZED | | 10.72 | 10.76 |
| PLUG, CLOSING | | .37 | .37 |
| SHIPPING WEIGHT | | 11.09 | 11.13 |



MARKING DIAGRAM

NOTES:-
A-RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED WITH OLIVE DRAB ENAMEL. RETOUCHING OF BASE AND SHELL TO REAR OF ROTATING BAND, OPTIONAL.
B-MARK WITH YELLOW STENCIL INK.
C-SAMPLE WEIGHT MARKING.
D-INSERT LOT NUMBER.
E-MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES AS FOLLOWS "TNT" FOR CAST TNT
"COMP. B" FOR CAST COMPOSITION B

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW STOCK PER 100 ASSEMBLES | REMARKS |
|----------|------------------------|-------------------------------|------------|--------------|----------------------|-------|--------------|----------------------------------|--|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-170A | | | | 50-15-5 | 11.09 | | |
| 2 | METAL PARTS ASSEMBLY | 1 | 75-18-33F | | | | 50-30-1 | 9.86 | | |
| 3 | | | | | | | | | | |
| 4 | CHARGE, BURSTING | 1 | 75-14-170B | CAST | COMPOSITION B | I | JAN-C-401 | .90 | | b, c |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | INK, STENCIL, YELLOW | | TT-I-558 | | | |
| 12 | | | | | | | | | | |
| 13 | PLUG, CLOSING | 1 | 75-14-406 | | | | 57-93-2 | .37 | | a |
| 14 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | | |
| 15 | | | | | | | | | | |

a- REQUIRED WHEN BOOSTER AND FUZE ARE NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING
b- SPEC. JAN-C-401 TO APPLY EXCEPT THAT EFFLUX VISCOSITY TO BE 7 ± 2 SECS. ADVISORY: OPTIMUM POURING TEMPERATURE 85 ± 2°C.
c- ALTERNATIVE: CAST TRINITROTOLUENE, GRADE I, JAN-T-248, .86 LBS.

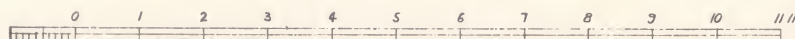
| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|----------------|
| | | | |
| 1 | | | |
| 2 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DWG. 75-14-170 |
| 3 | | | |
| 4 | | | |
| 5 | COMPOSITION B | JAN-C-401 | DWG. 75-14-170 |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | INK, STENCIL; OPAQUE FOR MARKING NON-POROUS SURFACES (ETC) | TT-I-558 | DWG. 75-14-170 |
| 10 | LOADING OF HE SHELL WITH TRINITROTOLUENE (TNT), 50/50 AMATOL | | |
| 11 | AND COMP. B, CASTING METHOD, ASSEMBLING AND PACKING | 50-15-5 | DWG. 75-14-170 |
| 12 | | | |
| 13 | | | |
| 14 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-E-74 |
| 15 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DWG. 75-14-170 |
| 16 | | | |
| 17 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DWG. 75-14-170 |
| 18 | | | |
| 19 | TRINITROTOLUENE (TNT) | JAN-T-248 | DWG. 75-14-170 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

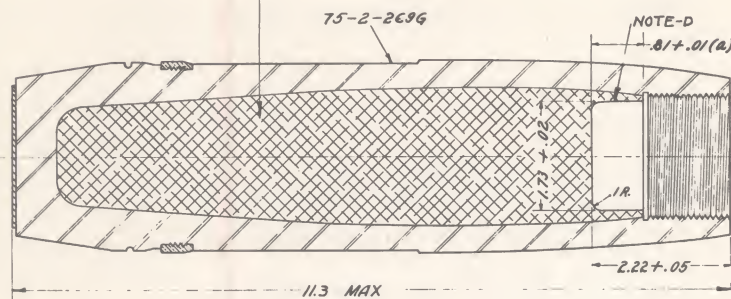
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|--------------------------------|----------------|
| | | |
| 1 | SHELL LOADING ASSEMBLY | 75-14-170 |
| 2 | METAL PARTS SHIPPING ASSEMBLY | 75-18-33 |
| 3 | PLUGS, CLOSING FOR PROJECTILES | 75-14-40 |
| 4 | | |

SUPERSEDES OLD TRACING 75-14-170.
UNDER REVISION DATE OF MARCH 18, 1943
SHELL, HE, 76-MM, M42A1
LOADING ASSEMBLY, MARKING DIAGRAM
AND DETAILS.

| DEC. 5, 1932. | | CLASS | DIVISION | DRAWING | FILE |
|------------------|----------|--|----------|---------|------|
| REVISIONS | | 75 | 14 | 170 | |
| 9 | 11-12-41 | | | | |
| 10 | 19-23-42 | | | | |
| 11 | 3-18-43 | | | | |
| 12 | 8-15-45 | | | | |
| 13 | 12-31-48 | | | | |
| 14 | 7-27-50 | | | | |
| DRG. PERTAINS TO | | F.E.W. | J.R.S. | | |
| | | HTL | | | |
| | | SUBMITTED | | | |
| | | EXAMINED | | | |
| | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | |
| | | S.P. S. S. S. | | | |
| | | ORDNANCE DEPT. U.S.A. | | | |



CHARGE, BURSTING 75-14-198 B3
APPROX. 1.49 LBS. CAST TNT, GRADE I



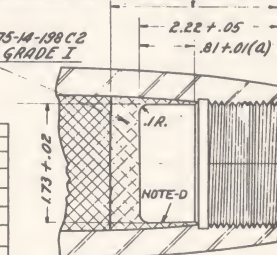
SHELL LOADING ASSEMBLY 75-14-198 A10

MEAN VOLUME OF CHARGE 26.21 CU. IN.
(a) THIS DIMENSION CONTROLS TOOL MANUFACTURE.

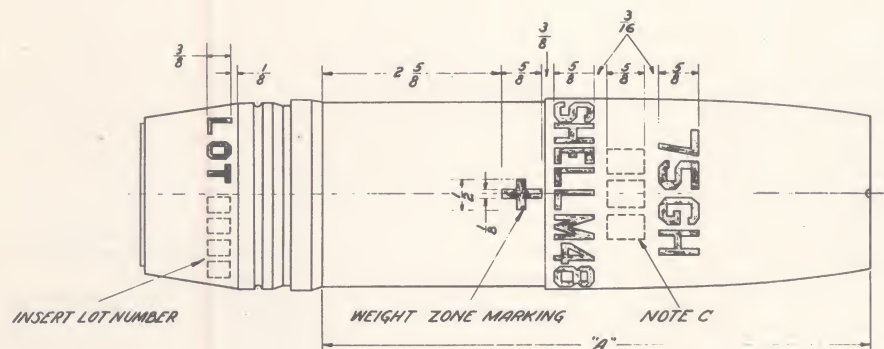
| ZONE | WEIGHT ZONE | | MARK |
|------|--------------------------|--------------------------|------|
| | LOADED SHELL OVER POUNDS | UP TO & INCLUDING POUNDS | |
| L | 11.80 | 12.12 | |
| 1 | 12.08 | 12.42 | + |
| 2 | 12.38 | 12.72 | ++ |
| 3 | 12.68 | 13.00 | +++ |

| APPROX. WEIGHTS | | |
|-------------------------|-------------|-------------|
| | TNT | AMATOL |
| SHELL, WEIGHT EMPTY | 10.97 ± .30 | 10.97 ± .30 |
| CHARGE, BURSTING | 1.49 | 1.36 |
| SURROUND, BOOSTER (TNT) | | .11 |
| TOTAL WEIGHT, UNFUZED | 12.46 | 12.44 |
| SHIPPING WEIGHT | 12.46 | 12.44 |

LOAD AMATOL TO PROVIDE .5 MIN. TNT THICKNESS



BOOSTER CAVITY WITH CAST TNT SURROUND FOR 50-50 AMATOL LOADING.



MARKING DIAGRAM (SAMPLE MARKING)

NOTES:-
A-RETOUCH THE SURFACE, WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB, GRADE I.
B-MARK WITH YELLOW MARKING INK.
C-MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES { "TNT," FOR CAST TNT.
"AM. 50-50," FOR 50-50 AMATOL.
D- TNT CHIPPED OR BROKEN FROM SIDE WALL OF BOOSTER CAVITY, NEED NOT BE REPLACED.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROXIMATE GROSS WEIGHT OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
|----------|--------------------------------|-------------------------------|------------|--------------|----------------------|------------------|----------------------------------|---|---------|
| | | | PIECE-MARK | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-198A | | | | 50-15-5 | 12.46 | |
| 2 | METAL PARTS SHIPPING ASSEMBLY | 1 | 75-2-269G | | | | 50-30-1 | 10.97 | |
| 3 | | | | | | | | | |
| 4 | CHARGE, BURSTING | 1 | 75-14-198B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 1.49 | |
| 5 | | | | | | | | | |
| 6 | CHARGE, BURSTING (ALTERNATIVE) | | | CAST | 50-50 AMATOL | AMMONIUM NITRATE | JAN-T-248 | 1.36 | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | INK, MARKING, YELLOW | | 36-2 | | |
| 13 | | | | | | | | | |
| 14 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | |
| 15 | SURROUND, BOOSTER | | 75-14-198C | CAST | TRINITROTOLUENE | I | JAN-T-248 | .11 | (b) |

(b) USE WHEN LOADING SHELL WITH 50-50 AMATOL.

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER * | REQUIRED BY |
|----------|---|--------------------------|
| 1 | | |
| 2 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 DRG. 75-14-198 |
| 3 | AMMONIUM NITRATE | JAN-A-175 DRG. 75-14-198 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | INK, MARKING, FOR MARKING AMMUNITION | 36-2 DRG. 75-14-198 |
| 10 | LOADING OF HIGH EXPLOSIVE SHELL WITH TRINITROTOLUENE (TNT) | |
| 11 | 50-50 AMATOL OR TRIMONITE, CASTING METHOD, ASSEMBLING & PACKING | 50-15-5 DRG. 75-14-198 |
| 12 | | |
| 13 | | |
| 14 | PRINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 JAN-E-74 |
| 15 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 DRG. 75-14-198 |
| 16 | | |
| 17 | | |
| 18 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 DRG. 75-14-198 |
| 19 | TRINITROTOLUENE (TNT) | JAN-T-248 DRG. 75-14-198 |
| 20 | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

LIST OF DRAWINGS

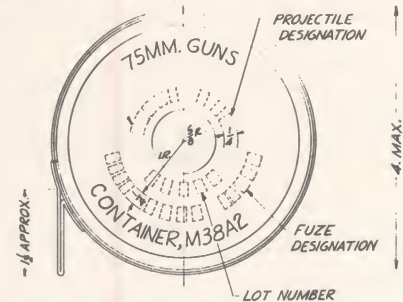
| LINE NO. | DRAWING NUMBER |
|----------|--|
| 1 | SHELL LOADING ASSEMBLY 75-14-198 |
| 2 | METAL PARTS SHIPPING ASSEMBLY 75-2-269 |
| 3 | |
| 4 | |

SUPERSEDES OLD TRACING 75-14-198 UNDER REVISION DATE OF MARCH 15, 1943

SHELL, H. E., 75 MM., M 48. SHELL LOADING ASSEMBLY, MARKING DIAGRAM & DETAILS

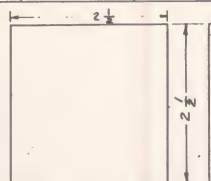
| | | | | |
|---|-------|----------|---------|------|
| NOV. 4, 1933 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 14 | 198 | |
| 7 11-12-41 | | | | |
| 8 9-23-42 | | | | |
| 9 3-15-43 | | | | |
| 10 8-15-45 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMAL ± | | | | |
| FRACTIONAL ± | | | | |
| ANGULAR ± | | | | |
| DRG. PERTAINS TO | | | | |
| SUBMITTED: | | | | |
| EXAMINED: | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | |
| ORDNANCE DEPT., U. S. A. | | | | |

MARK BOTH ENDS AS SHOWN, USING WHITE MARKING INK. INSERT PROPER PROJECTILE DESIGNATION AND FUZE DESIGNATION AS INDICATED IN TABULATION, AND LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER).



CARTRIDGE CASE MUST BE SUPPORTED ON ITS RIM WHEN ROUND, COMPLETE, PROJ., A.R.C., M61, AND DRILL CARTRIDGE M16 OR M16B1 ARE INSERTED.

| ROUND | PROJECTILE DESIGNATION | FUZE DESIGNATION | COLOR OF SEALING STRIP | GUN DESIGNATION |
|--|----------------------------------|------------------------|------------------------|-----------------------------------|
| M48 SHELL WITH P.D. FUZE M57 | SHELL, M48 | WITH FUZE P.D. M57 | YELLOW | AIRCRAFT |
| M48 H.E. SHELL WITH P.D. FUZE M48 | SHELL, M48 | WITH FUZE P.D. M48 | YELLOW | M1897, M1917, M2 M3 & T7 |
| M48 H.E. SHELL WITH FUZE M54 | SHELL, M48 | WITH FUZE, T.S.Q., M54 | YELLOW | M1897, M1916 & M1917 |
| M61, A.R.C., PROJ. WITH TRACER | PROJ., A.R.C., M61 | WITH FUZE B.D. M66A1 | YELLOW | M1897, M1916, M1917, M2, M3, & T7 |
| M16 OR M16B1 DRILL CARTRIDGE WITH DUMMY FUZE M59 | CARTRIDGE, DRILL, M16 (OR M16B1) | WITH DUMMY FUZE, M59 | BLACK | M1897, M1916, M1917, M2, M3, & T7 |
| M48 H.E. SHELL (PRACTICE) WITH DUMMY FUZE, M59 | SHELL, M48 | WITH DUMMY FUZE, M59 | LIGHT BLUE | |



FILLER 75-14-199BG
NO. 35 CHIPBOARD PASTED OR PLAIN .06 THICK, COMMERCIAL

STRIP, SEALING 75-14-199A7
ADHESIVE TAPE, COLORED (b)
2 X 30, APPROXIMATELY.

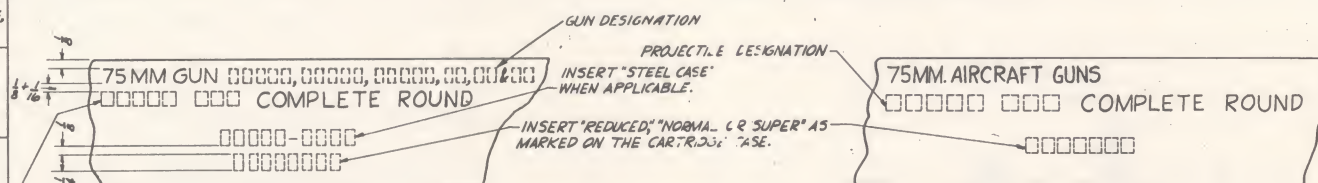
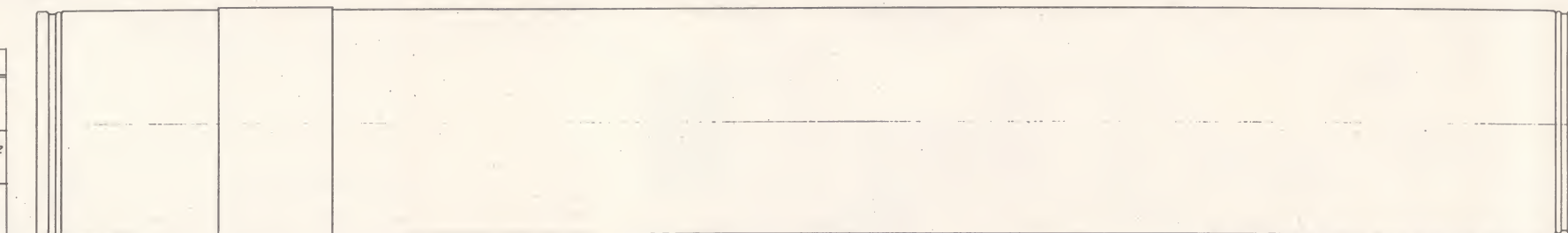
AFTER INSERTING ROUND, SECURE COVER BY APPLYING SEALING STRIP IN DIRECTION OPPOSITE TO THAT OF OUTER LAYER OF PAPER ON CONTAINER BODY.
NO GAP PERMITTED AT THIS JOINT.

76-1-6036

76-1-163A

INSERT ONE OR MORE FILLERS (75-14-199B), AS REQUIRED TO PACK TIGHTLY (c).

27 1/4 MAX.



PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 75MM AIRCRAFT GUNS:
ROUND, COMPLETE, PROJ. A.R.C., M61 (WITH M66A1 B.D. FUZE)
CARTRIDGE CASE MARKED "75 MM. AIRCRAFT GUNS."
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M57 P.D. FUZE AND SUPERCHARGE)
PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 75MM GUNS M1897, M1916, M1917, M2, M3 & T7 (FOR BOTH BRASS AND STEEL CASES).
CARTRIDGES, DRILL, M16 AND M16B1 WITH DUMMY FUZE M59.
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND SUPERCHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND NORMAL CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M48 P.D. FUZE AND REDUCED CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND SUPER CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND NORMAL CHARGE).
ROUND, COMPLETE, SHELL, H.E., M48 (WITH M54 FUZE AND REDUCED CHARGE).
ROUND, COMPLETE, PROJ., A.R.C., M61 (WITH M66A1 B.D. FUZE).
ROUND, COMPLETE, SHELL, M48 (PRACTICE, WITH DUMMY FUZE M59).

PROJECTILE DESIGNATION

MARKING OF SEALING STRIPS

MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/2 HIGH USING BLACK MARKING INK EITHER BEFORE OR AFTER APPLICATION OF THE SEALING STRIP.
MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER.
INSERT PROPER PROJECTILE DESIGNATION AS INDICATED IN TABULATION.
USE WHITE MARKING INK FOR BLACK SEALING STRIP.

FOR PACKING AND MARKING OF PACKING BOX SEE DRG. 20-4-388E

PACKING AND MARKING OF CONTAINER, FIBER, 75MM, M38A2

| | | | | | |
|---|---------|-------|----------|---------|------|
| FEB. 14, 1935 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 199 | |
| 1 | 1-10-38 | 7 | 8-15-45 | | |
| 2 | 4-9-40 | | | | |
| 3 | 11-4-40 | | | | |
| 4 | 2-19-42 | | | | |
| 5 | 8-28-42 | | | | |
| 6 | 7-31-43 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL 1/10 | | | | | |
| FRACTIONAL 1/16 | | | | | |
| ANGULAR 1/2 | | | | | |
| DRG. PERTAINS TO | | | | | |
| SUBMITTED | | | | | |
| EXAMINED | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | | |
| ORDNANCE DEPT. U.S.A. | | | | | |

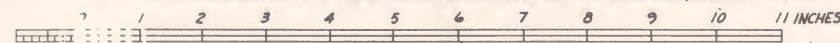
| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
|----------|----------------|----------------------------|------------|--------------|----------------------------|-------|--------------|----------------------------------|--|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | |
| 1 | PACKING STOP | 1 | 76-1-163A | | | | | .15 | | (a) |
| 2 | STRIP, SEALING | 1 | 75-14-199A | STRIP | ADHESIVE TAPE | | 50-11-81 | .03 | | (b) |
| 3 | | | | | INK, MARKING, WHITE | | 36-2 | | | |
| 4 | | | | | INK, MARKING, BLACK | | 36-2 | | | |
| 5 | FILLER | (c) | 75-14-199B | SHEET | CHIPBOARD, PASTED OR PLAIN | | COMMERCIAL | .02 | | |

(a) NOT USED WHEN PROJ., A.R.C., M61, AND DRILL CARTRIDGE M16 OR M16B1 ARE PACKED IN CONTAINER.
(b) FOR PROPER COLOR SEE TABULATION ABOVE.

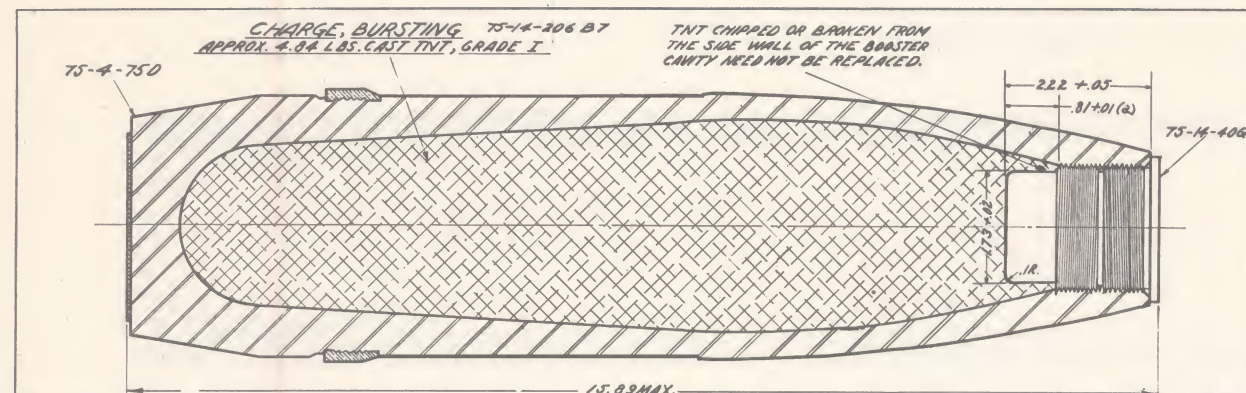
LIST OF SPECIFICATIONS

| | SPEC. NUMBER | REQUIRED BY |
|---|--------------|----------------|
| AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-199 |
| MARKING, (FOR MARKING AMMUNITION). | 36-2 | DRG. 75-14-199 |
| AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | 50-11-81 |
| ADHESIVE, COLORED AND WHITE | 50-11-81 | DRG. 75-14-199 |

1. SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
2. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

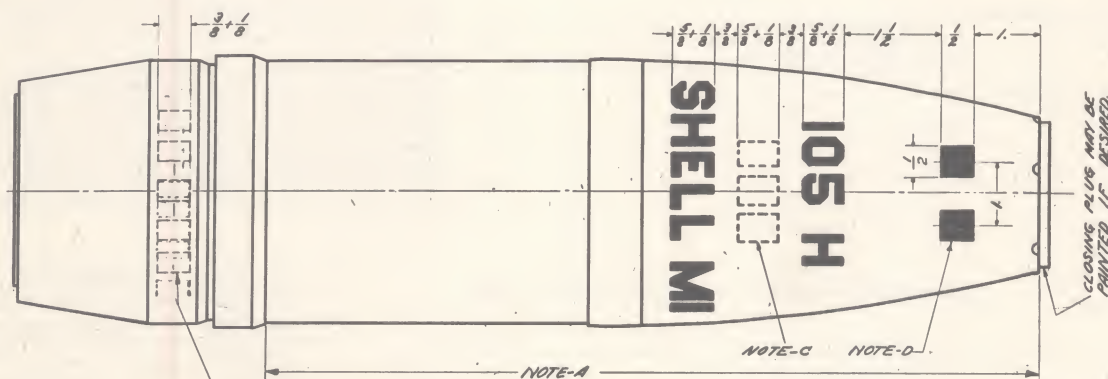
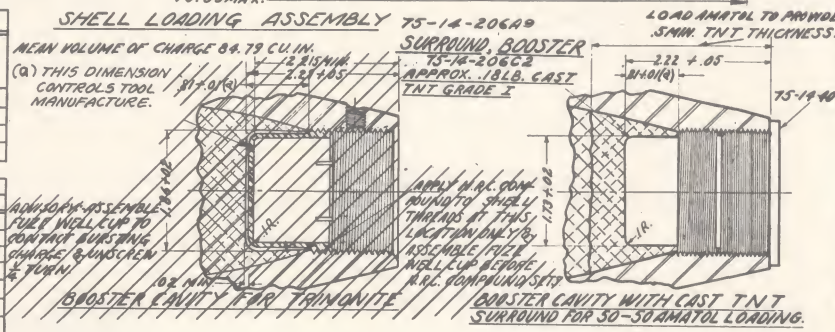


SUPERSEDED BY 76-1-1120 AND 76-1-1125 WITH CHANGE SEPTEMBER 9, 1949



| ZONE | LOADED SHELL | | MARK |
|------|--------------|--------------------------|------|
| | OVER POUNDS | UP TO & INCLUDING POUNDS | |
| 1 | 29.9 | 30.6 | 1 |
| 2 | 30.6 | 31.2 | 2 |
| 3 | 31.1 | 31.8 | 3 |
| 4 | | | 4 |

| APPROX. WEIGHTS | | POUNDS | |
|------------------------|-----------|-----------|--------|
| | | TNT | AMATOL |
| SHELL, EMPTY | 26.042.60 | 26.042.60 | |
| CHARGE, BURSTING | 484 | 4.57 | |
| SURROUND, BOOSTER | | .18 | |
| TOTAL WEIGHT, UNFUZZED | 30.88 | 30.79 | |
| PLUG CLOSING | .37 | .37 | |
| SHIPPING WEIGHT | 31.25 | 31.16 | |



NOTES:-

A - RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE DRAB ENAMEL.

B - MARK WITH YELLOW STENCIL INK.

C - MARK EXPLOSIVE SYMBOL WITH LETTERS AND FIGURES AS FOLLOWS: "TNT" FOR CAST TNT.

D - SAMPLE WEIGHT MARKING.

E - A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.

LIST OF PARTS

| LINE NUMBER | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROXIMATE GROSS WEIGHT PER UNIT ASSEMBLED | REMARKS |
|-------------|--------------------------------|---------------------------|------------|--------------|----------------------|------------------|--------------|----------------------------------|---|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-206A | | | | 50-15-5 | | | |
| 2 | METAL PARTS SHIPPING ASSEMBLY | 1 | 75-4-750 | | | | 50-30-1 | 26.04 | | |
| 3 | CHARGE, BURSTING | 1 | 75-14-206B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 484 | | |
| 4 | CHARGE, BURSTING (ALTERNATIVE) | | | CAST | 50-50 AMATOL | AMMONIUM NITRATE | JAN-A-175 | | | |
| 5 | | | | | | TRINITROTOLUENE | JAN-T-248 | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | SURROUND, BOOSTER | 1 | 75-14-206C | CAST | TRINITROTOLUENE | I | 50-13-5 | .18 | | (b) |
| 10 | | | | | | | | | | |
| 11 | | | | | INK, STENCIL, YELLOW | | TT-I-558 | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | | |
| 14 | | | | | | | | | | |
| 15 | PLUG, CLOSING | 1 | 75-14-406 | | | | 57-93-2 | .37 | | (d) |

(d) - REQUIRED ONLY IN T.N.T. AND AMATOL LOADED SHELL WHEN 500-BOOSTER OR FUZE IS NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING.

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|---|-------------------------|
| 1 | | |
| 2 | AMMONIUM NITRATE | JAN-A-175 DRG 75-14-206 |
| 3 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPECIFICATIONS FOR | 50-0-1 DRG 75-14-206 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES ETC. | TT-I-558 DRG 75-14-206 |
| 9 | | |
| 10 | LOADING OF H.E. SHELL WITH TRINITROTOLUENE (TNT), 50-50 | |
| 11 | AMATOL, CASTING METHOD, ASSEMBLING AND PACKING | 50-15-5 DRG 75-14-206 |
| 12 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 9-1 JAN-E-74 |
| 13 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 DRG 75-14-206 |
| 14 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 DRG 75-14-206 |
| 15 | | |
| 16 | TRINITROTOLUENE (TNT) | JAN-T-248 DRG 75-14-206 |

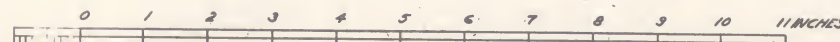
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

LIST OF DRAWINGS

| LINE NO. | DRAWING NUMBER |
|----------|--|
| 1 | SHELL LOADING ASSEMBLY 75-14-206 |
| 2 | METAL PARTS SHIPPING ASSEMBLY 75-4-750 |
| 3 | PLUGS, CLOSING, FOR PROTECTILES 75-14-40 |
| 4 | |

SHELL, H.E., 105-MM. M.I., SHELL LOADING ASSEMBLY, MARKING DIAGRAM & DETAILS

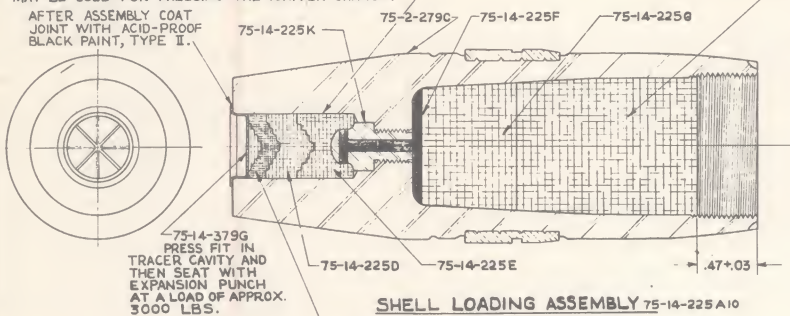
| | | | | | |
|--|---------|--|------------|----------|------|
| JULY 6, 1935 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 206 | |
| 1 | 10-6-38 | 7 | 11-12-41 | | |
| 2 | 2-24-37 | 8 | 9-23-42 | | |
| 3 | 4-29-38 | 9 | 5-21-43 | | |
| 4 | 4-19-40 | 10 | 8-15-45 | | |
| 5 | 6-7-41 | 11 | 4-11-49 | | |
| 6 | 10-3-41 | | | | |
| DRG. PERTAINS TO | | CHECKER | W.M.R. OHS | ENGINEER | M.T. |
| SUBMITTED | | EXAMINED | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | |
| JOHN G. BOSTON | | JOHN G. BOSTON | | | |
| LT COL, ORDN. DEPT. U.S.A. | | LT COL, ORDN. DEPT. U.S.A. | | | |
| D | | ORDNANCE DEPT. U.S.A. | | | |



TRACER LOADING INSTRUCTIONS

PRESS SEPARATELY TRACER CHARGE AND IGNITER CHARGE AT 110,000 LBS. PER SQ. IN., ALLOWING LOAD TO DWELL FROM 4 TO 6 SECONDS. EITHER THE OCTAGONAL OR THE "STEP" PUNCH MAY BE USED FOR PRESSING THE TRACER CHARGE. ONLY THE "STEP" MAY BE USED FOR PRESSING THE IGNITER CHARGE.

AFTER ASSEMBLY COAT JOINT WITH ACID-PROOF BLACK PAINT, TYPE II.



CHARGE, IGNITER 75-14-225C10

APPROX. 20 GRAINS (1.3 GRAMS) IGNITER COMPOSITION, K ADVISORY: ONE SOLID PELLET; DIA. = .490, LENGTH = .18

CHARGE, TRACER (NO. 2) 75-14-225D10

APPROX. 51 GRAINS (3.3 GRAMS) TRACER COMPOSITION, M3 ADVISORY: TWO SOLID PELLETS; DIA. = .490, LENGTH = .25

CHARGE, TRACER (NO. 1) 75-14-225E10

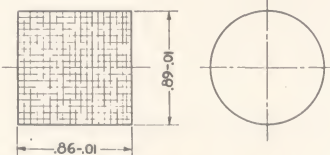
APPROX. 39 GRAINS (2.55 GRAMS) TRACER COMPOSITION, M2 ADVISORY: ONE HOLLOW PELLET; INSIDE DIA. = .208, OUTSIDE DIA. = .490, LENGTH = .246 AND ONE SOLID PELLET; DIA. = .490, LENGTH = .18 PELLETS FORMED SEPARATELY BUT RECONSOLIDATED.

RECOAT CAVITY IF NECESSARY WITH ACID-PROOF BLACK PAINT, TYPE I OR II, AND ALLOW TO DRY BEFORE LOADING.

CHARGE, BURSTING 75-14-225B9

APPROX. .07 LB. (490 GRAINS) TETRYL MAY CONTAIN NOT MORE THAN 2% GRAPHITE, GRADE "A" OR "B". PRESS BASE PELLET 75-14-225G AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225F IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN TWO APPROX. EQUAL INCREMENTS AT 9,000 LBS. PER SQ. IN. MIN. (C)

(C) ALTERNATIVE METHOD: PRESS BASE PELLET 75-14-225G AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225F IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN ONE INCREMENT AT 9,000 LBS. PER SQ. IN. MIN. USING TWO APPROX. EQUAL PELLETS.



PELLET BASE 75-14-225G9

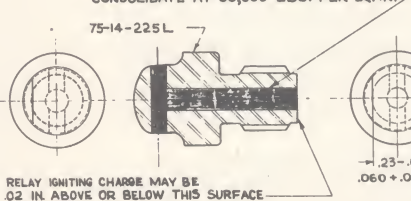
200-7 GRAINS (13-.45 GRAMS), TETRYL MAY CONTAIN NOT MORE THAN 2% GRAPHITE, GRADE "A" OR "B". ADVISORY DATA: PELLETTING PRESSURE APPROX. 5,000 LBS. PER SQ. IN. SPECIFIC GRAVITY, ALL PLACES, 1.40 TO 1.55

PELLET, RELAY 75-14-225F10
23-2 GRAINS (1.48-.13 GRAMS) BLACK POWDER, GRADE "A-5"
ADVISORY: SPECIFIC GRAVITY, 1.65

28NF-2 LH
MAJOR = .2500-.0062
PITCH = .2268-.0031
MINOR = .2062 MAX.

CHARGE, RELAY IGNITING 75-14-225H10

APPROX. 1.68 GRAINS (109 MILLIGRAMS) BLACK POWDER, GRADE "A-5"
CONSOLIDATE AT 60,000 LBS. PER SQ. IN.



RELAY IGNITING CHARGE MAY BE .02 IN. ABOVE OR BELOW THIS SURFACE

RELAY IGNITING CHARGE HOUSING ASSEMBLY 75-14-225K9

HOUSING, RELAY IGNITING CHARGE 75-14-225L9

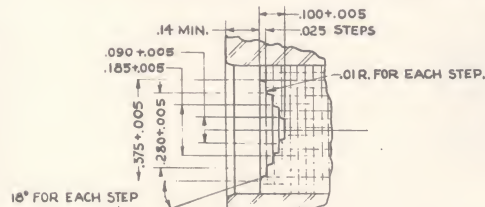
CORROSION-RESISTING STEEL, GRADE 6T
FINISH
MIN. PHYSICAL PROPERTIES
T.S. 120,000 EL. 10%
Y.P. 90,000 RED. 40%

| APPROXIMATE WEIGHTS | | 75-14-225A | 75-14-225M |
|----------------------|--|------------|--------------|
| | | POUNDS | POUNDS |
| SHELL, EMPTY | | 1.045 | 1.045 |
| CHARGE, BURSTING (a) | | .10 | .105 |
| TRACER AND CLOSURE | | .025 | .025 |
| TOTAL | | 1.17 ± .05 | 1.175 ± .050 |

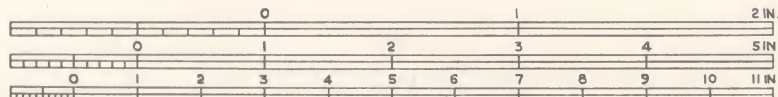
(a) WEIGHT INCLUDES BASE PELLET AND RELAY PELLET.

ENLARGED SECTION SHOWING CAVITY FORMED WITH "STEP PUNCH"

DIMENSIONS CONTROL TOOL MANUFACTURE



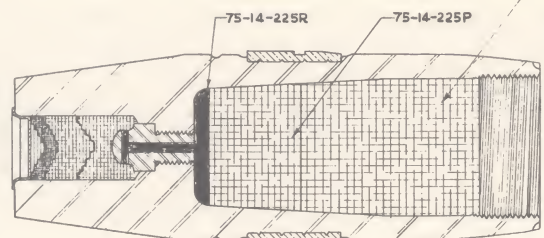
ENLARGED SECTION SHOWING CAVITY FORMED WITH "OCTAGONAL PUNCH" (ALTERNATIVE)



CHARGE, BURSTING 75-14-225N9

APPROX. .07 LB. (504 GRAINS), COMP. "A" PRESS BASE PELLET 75-14-225P AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET 75-14-225R IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN TWO APPROX. EQUAL INCREMENTS AT 9,000 LBS. PER SQ. IN. (f)

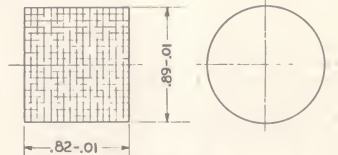
(f) ALTERNATIVE METHOD: PRESS PELLET 75-14-225P AT 9,000 TO 10,000 LBS. PER SQ. IN. WITH RELAY PELLET IN POSITION SHOWN, PRESS REMAINDER OF CHARGE IN ONE INCREMENT AT 9,000 LBS. PER SQ. IN. MIN. USING TWO APPROX. EQUAL PELLETS.



SHELL LOADING ASSEMBLY 75-14-225M9

MEAN VOLUME OF BURSTING CHARGE INCLUDING PELLETS = 1.78 CU. IN.

FOR ALL OTHER INFORMATION, SEE 75-14-225A



PELLET BASE 75-14-225P9

195-7 GRAINS (12.63-.45 GRAMS) COMP. "A" ADVISORY DATA: PELLETTING PRESSURE APPROX. 5,000 LBS. PER SQ. IN. SPECIFIC GRAVITY = APPROX. 1.55 MAX.

PELLET, RELAY 75-14-225R10
36-2 GRAINS (2.33-.13 GRAMS) BLACK POWDER, GRADE "A-5"
ADVISORY: SPECIFIC GRAVITY, 1.65

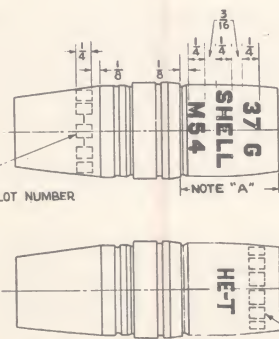
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-225 |
| 2 | LIST OF PARTS AND LIST OF SPEC. | 75-14-225A |
| 3 | METAL PARTS ASSEMBLY | 75-2-279 |
| 4 | LOADING ACCESSORIES FOR PROJECTILE | 75-14-379 |

WITH 75-14-225A SUPERSEDES OLD TRACING 75-14-225 UNDER REVISION DATE OF JULY 27, 1943

SHELL, HE-T, SD, 37MM, M54 LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS.

| | | | | | |
|--|----------|-------|----------|---------|------|
| JUNE 16, 1939 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 225 | |
| 7 | 11-25-41 | | | | |
| 8 | 6-10-42 | | | | |
| 9 | 7-27-43 | | | | |
| 10 | 8-15-45 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL ± | | | | | |
| FRACTIONAL ± | | | | | |
| ANGULAR ± | | | | | |
| DRG. PERTAINS TO | | | | | |
| <div> <div> <div>DESIGNED</div> <div>7/14</div> </div> <div> <div>CHECKED</div> <div>J.B.</div> </div> <div> <div>SUBMITTED</div> <div></div> </div> </div> | | | | | |
| <div> <div> <div>APPROVED BY ORDER OF THE CHIEF OF ORDNANCE</div> <div>S.P. Stridling</div> <div>COL., ORD. DEPT. U.S.A.</div> </div> <div> <div>75-1-101</div> <div>D</div> </div> </div> | | | | | |
| ORDNANCE DEPT., U.S.A. | | | | | |

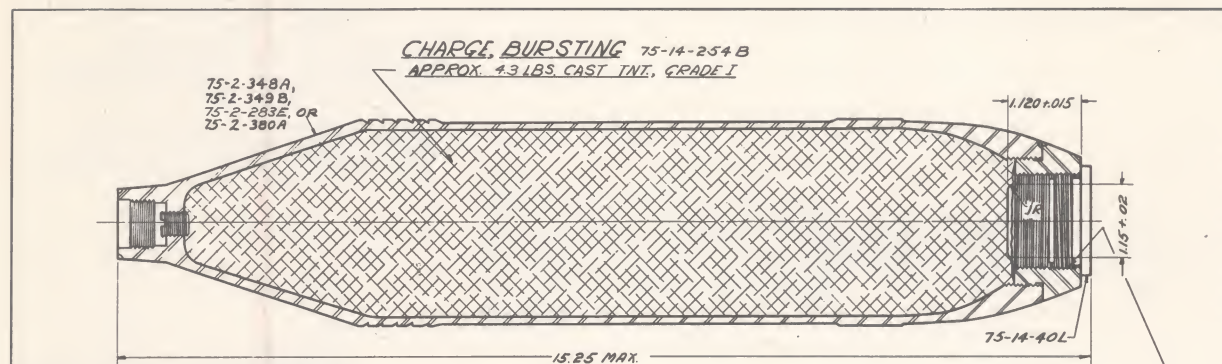
MARKING DIAGRAM



VIEW SHOWING SHELL ROTATED 120° FROM UPPER VIEW.

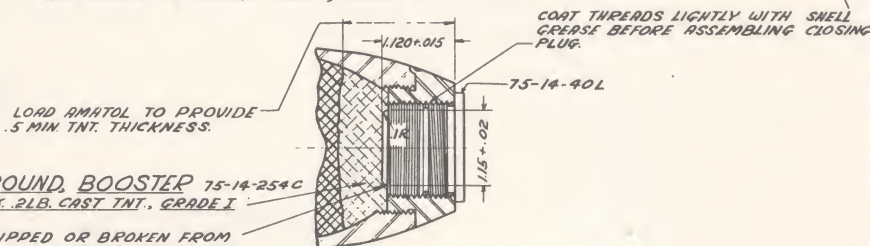
SEE NOTE "C"

NOTES:
A-RETOUCH THE SURFACE, WHERE PREVIOUS COATING IS DAMAGED WITH OLIVE DRAB ENAMEL.
B-MARK WITH YELLOW STENCIL INK.
C-MARK "TETRYL" FOR PRESSED TETRYL WHEN APPLICABLE.
MARK "COMP. A" FOR PRESSED COMPOSITION "A" WHEN APPLICABLE.



| APPROX. WEIGHTS | POUNDS | |
|-------------------|------------|------------|
| | TNT | AMATOL |
| SHELL, EMPTY | 4.94 ± .15 | 4.94 ± .15 |
| CHARGE, BURSTING | 4.30 | 3.89 |
| SURROUND, BOOSTER | | .20 |
| TOTAL WT. UNFUZED | 9.24 | 9.03 |
| PLUG, CLOSING | .18 | .18 |
| SHIPPING, WEIGHT | 9.42 | 9.21 |

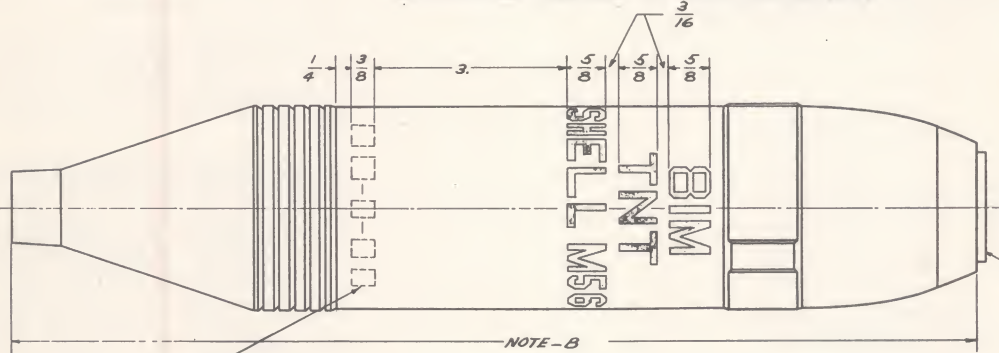
SHELL LOADING ASSEMBLY 75-14-254A
MEAN VOLUME OF CHARGE CAVITY, 75.3 CU. IN.



SURROUND, BOOSTER 75-14-254C
APPROX. 2LB. CAST TNT, GRADE I

TNT CHIPPED OR BROKEN FROM SIDEWALL OF CAVITY NEED NOT BE REPLACED.

BOOSTER CAVITY AND CAST TNT. SURROUND FOR 50-50 AMATOL LOADING



INSERT LOT NUMBER

MARKING DIAGRAM

NOTES:-
A- MARK WITH YELLOW STENCIL INK
B- RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE DRAB, GRADE I, ENAMEL OR LACQUER ENAMEL. REAR BOURRELET MUST PASS A 3.171 MAX DIA RING GAGE.

| LIST OF PARTS | | | | | | | | | | |
|---------------|-----------------------------------|----------------------|------------|--------------|----------------------|-------|--------------|----------------------------------|-------------------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER PER COMPONENT | PIECE-MARK | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF PARTS ASSEMBLY | REMARKS |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-254A | | | | 50-15-5 | 9.42 | | |
| 2 | METAL PARTS ASSEMBLY, M56 | 1 | 75-2-283F | | | | | 4.94 | | |
| 3 | CHARGE, BURSTING | 1 | 75-14-254B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 4.30 | | |
| 4 | CHARGE, BURSTING (ALTERNATIVE) | | | CAST | 50-50 AMATOL | | JAN-A-175 | 3.89 | | |
| 5 | | | | | | | JAN-T-248 | | | |
| 6 | METAL PARTS ASSEMBLY, M56B1 (ALT) | | 75-2-348A | | | | | 4.94 | | |
| 7 | METAL PARTS ASSEMBLY, M56B2 (ALT) | | 75-2-349B | | | | | 4.94 | | |
| 8 | METAL PARTS ASSEMBLY, M56B3 (ALT) | | 75-2-380A | | | | | 4.94 | | |
| 9 | SURROUND, BOOSTER | 1 | 75-14-254C | CAST | TRINITROTOLUENE | I | JAN-T-248 | .20 | | (a) |
| 10 | PLUG, CLOSING | 1 | 75-14-40L | | | | | .18 | | (b) |
| 11 | | | | | | | | | | |
| 12 | | | | | GREASE, SHELL | | 50-11-37 | | | |
| 13 | | | | | INK, STENCIL, YELLOW | | TT-I-558 | | | |
| 14 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | | (c) |

(a) USE WHEN LOADING WITH AMATOL.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|---------------|
| 1 | | | |
| 2 | AMMONIUM NITRATE | JAN-A-175 | DRG 75-14-254 |
| 3 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG 75-14-254 |
| 4 | | | |
| 5 | | | |
| 6 | GREASE, SHELL | 50-11-37 | DRG 75-14-254 |
| 7 | INK, STENCIL | TT-I-558 | DRG 75-14-254 |
| 8 | | | |
| 9 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG 75-14-254 |
| 10 | LOADING OF H.E. SHELL WITH TNT, 50-50 AMATOL, ETC. | 50-15-5 | DRG 75-14-254 |
| 11 | | | |
| 12 | | | |
| 13 | PRINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-E-74 |
| 14 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 | DRG 75-14-254 |
| 15 | | | |
| 16 | | | |
| 17 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG 75-14-254 |
| 18 | TRINITROTOLUENE (TNT) | JAN-T-248 | DRG 75-14-254 |
| 19 | | | |
| 20 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

(b) REQUIRED ONLY IN TNT AND AMATOL LOADED SHELL WHEN FUZE IS NOT ASSEMBLED INTO SHELL IMMEDIATELY AFTER LOADING.
(c) ALTERNATIVE: LACQUER ENAMEL, OLIVE DRAB GRADE I, SPEC. JAN-L-73

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-254 |
| 2 | METAL PARTS ASSEMBLY | 75-2-283 |
| 3 | PLUGS, CLOSING, FOR PROJECTILES | 75-14-90 |
| 4 | METAL PARTS ASSEMBLY | 75-2-348 |
| 5 | METAL PARTS ASSEMBLY | 75-2-349 |
| 6 | METAL PARTS ASSEMBLY | 75-2-380 |

SUPERSEDES OLD TRACING 75-14-254 UNDER REVISION DATE OF 3-6-45

SHELL, H.E., 81MM, M56.
LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS.

SEPTEMBER 9, 1940

| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
|-----------|-------|----------|---------|------|
| 1 | 75 | 14 | 254 | |

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

DECIMAL ±

FRACTIONAL ±

ANGULAR ±

DRG. PERTAINS TO

ENGINEER

TRACER

INSPECTOR

SUBMITTED

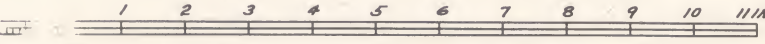
EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

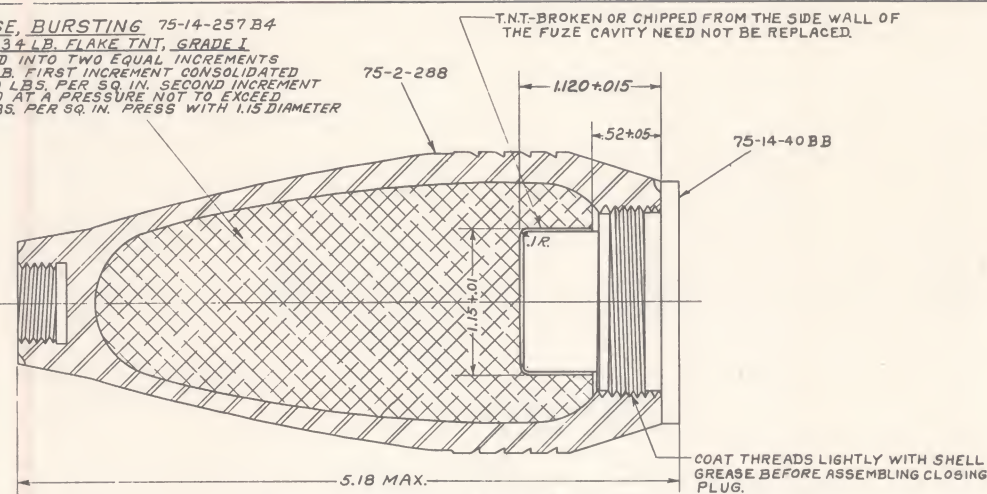
C. S. Reed 1402.

COL., ORD. DEPT. U.S.A.

ORDNANCE DEPT., U.S.A.

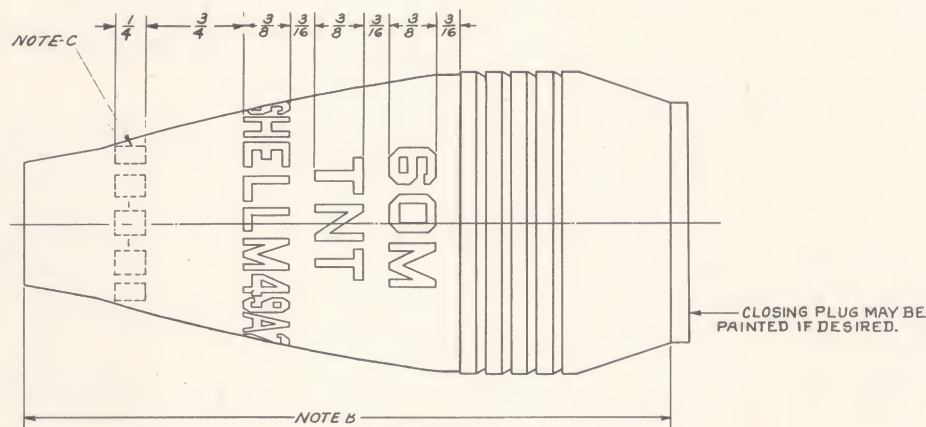


CHARGE, BURSTING 75-14-257 B4
APPROX. 34 LB. FLAKE TNT, GRADE I
PRESSED INTO TWO EQUAL INCREMENTS
OF 17 LB. FIRST INCREMENT CONSOLIDATED
AT 2000 LBS. PER SQ. IN. SECOND INCREMENT
PRESSED AT A PRESSURE NOT TO EXCEED
5000 LBS. PER SQ. IN. PRESS WITH 1.15 DIAMETER
PUNCH.



SHELL LOADING ASSEMBLY 75-14-257A 4
MEAN VOLUME OF CHARGE=7.14 CU. IN.

| APPROX. WEIGHTS | POUNDS |
|------------------------|------------|
| SHELL, EMPTY | 1.67 ± .06 |
| CHARGE, BURSTING (TNT) | .34 |
| TOTAL WEIGHT, UNFUZED | 2.01 |
| PLUG, CLOSING | .20 |
| SHIPPING WEIGHT | 2.21 |



NOTES:-
A- MARK WITH YELLOW MARKING INK OR STENCIL PAINT.
B- RETOUCH SURFACE WHERE PREVIOUS COATING IS DAMAGED
WITH OLIVE DRAB LACQUER ENAMEL OR ENAMEL; BOURRELET
MUST PASS A 2.364 M DIAMETER RING GAGE.
C- INSERT LOT NUMBER (INCLUDING LOADER'S INITIALS OR SYMBOL).

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER OF COMPONENT | PIECE- MARK | SIZE OR FORM | KIND | GRADE | SPEC. NO. | APPROXIMATE WEIGHT (POUNDS) | APPROXIMATE GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
|----------|------------------------|---------------------------|----------------|--------------------|----------------------------|-------|-----------|-----------------------------------|--|---------|
| 1 | SHELL LOADING ASSEMBLY | | 75-14-257A | | | | AXS-1466 | 2.21 | | |
| 2 | METAL PARTS ASSEMBLY | 1 | 75-2-288 | | | | | 1.67 | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | CHARGE, BURSTING | 1 | 75-14-257B | FLAKE | TRINITROTOLUENE | I | 50-13-5 | .34 | | |
| 6 | | | | | | | | | | |
| 7 | PLUG, CLOSING | 1 | 75-14-40BB | | | | 57-93-2 | .20 | | (b) |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | INK, MARKING, YELLOW | | 36-2 | | | (c) |
| 11 | | | | | LACQUER ENAMEL, OLIVE DRAB | I | 3-162 | | | (q) |
| 12 | | | | | GREASE, SHELL | | 50-11-37 | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |

(a) - ALT. - ENAMEL, LUSTRELESS, OLIVE DRAB, GRADE I, SPEC. 3-67

(b) - REQUIRED ONLY IN LOADED SHELL WHEN FUZE IS NOT ASSEMBLED IN SHELL IMMEDIATELY AFTER LOADING.

(c) - ALTERNATIVE: PAINT, STENCIL, YELLOW, SPEC. 3-179

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|--|-------------------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR | 50-0-1 DRG. 75-14-257 |
| 2 | | |
| 3 | SHELL, H.E. M49, FOR 60MM MORTAR ASSEMBLING, MARKING & PACKING | AXS-1466 75-14-257A |
| 4 | INK, MARKING | 36-2 DRG. 75-14-257 |
| 5 | PAINT, STENCIL | 3-179 DRG. 75-14-257 |
| 6 | GREASE, SHELL | 50-11-37 DRG. 75-14-257 |
| 7 | | |
| 8 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 3-67 |
| 9 | ENAMEL, LUSTRELESS | 3-67 DRG. 75-14-257 |
| 10 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 DRG. 75-14-257 |
| 11 | TRINITROTOLUENE (TNT) | 50-13-5 DRG. 75-14-257 |
| 12 | LACQUER ENAMEL, LUSTRELESS | 3-162 DRG. 75-14-257 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON
SHALL NOT APPLY.

LIST OF DRAWINGS

| LINE NO. | DRAWING NUMBER |
|----------|---|
| 1 | SHELL LOADING ASSEMBLY 75-14-257 |
| 2 | METAL PARTS ASSEMBLY 75-2-288 |
| 3 | PLUG, CLOSING, FOR PROJECTILES 75-14-40 |
| 4 | |

SUPERSEDES OLD TRACING 75-14-257
UNDER REVISION DATE OF MAY 25, 1944.

| | | | |
|--|---------|---|----------|
| SHELL, H.E., 60-MM, M49A2 LOADING ASSEMBLY AND MARKING DIAGRAM. | | | |
| JAN. 21, 1941 | | CLASS | DIVISION |
| REVISIONS | | 75 | 14 |
| 1 | 4-7-41 | | 257 |
| 2 | 6-16-41 | | |
| 3 | 5-25-44 | | |
| 4 | 8-15-45 | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL ± FRACTIONAL ± ANGULAR ± | | | |
| DRG. PERTAINS TO | | CHECKER | ENGINEER |
| | | R.H.W. | E.F.L. |
| | | W.H. | W.H. |
| | | SUBMITTED | |
| | | EXAMINED | |
| | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | |
| | | C. S. Reed | 422 |
| | | COL., ORD. DEPT., U.S.A. | |
| 75-1-82 | | ORDNANCE DEPT., U.S.A. | |

| LIST OF PARTS | | | | | | | | | |
|---------------|-------------------------------------|-------------------------------|------------|--------------|----------------------------|------------------|-------------|----------------------------------|----------|
| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | REMARKS | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC NUMBER | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-258A | | | | 50-15-5 | 241.72 | (C) (1) |
| 2 | METAL PARTS ASSEMBLY | 1 | 75-6-87C | | | | 50-30-1 | 216.99 | |
| 3 | FUZE, P.D., MSIA3, MOD. 3, ASSEMBLY | 1 | 75-2-163A | | | | 50-17-16 | 2.47 | (a), (c) |
| 4 | CHARGE, BURSTING | 1 | 75-4-258B | CAST | TRINITROTOLUENE | I | 50-13-5 | 20.90 | |
| 5 | CHARGE, BURSTING (ALTERNATIVE) | | | CAST | 50-50 AMATOL | AMMONIUM NITRATE | 50-11-59 | 19.60 | |
| 6 | CHARGE, BURSTING (ALTERNATIVE) | | | EXTRUDED | 80-20 AMATOL | TRINITROTOLUENE | 50-13-5 | 18.82 | |
| 7 | HEAD ASSEMBLY | 1 | 73-2-143C | | | | | .17 | (K) |
| 8 | SCREW, RETAINING | 1 | 75-4-88G | | | | | .06 | (K) |
| 9 | CUP, FUZE, WELL | 1 | 75-14-373B | | | | | .06 | (F) |
| 10 | | | | | | | | | |
| 11 | SURROUND, BOOSTER | | 75-14-258C | CAST | TRINITROTOLUENE | I | 50-13-5 | .25 | (b) |
| 12 | FUZE, M., M6TA3 | 1 | 73-7-97A | | | | | 2.14 | (K) |
| 13 | | | | | | | | | |
| 14 | | | | | COMPOUND, N.R.C. | A | 50-11-10 | | |
| 15 | | | | | INK, PRINTERS, BLACK | | COMMERCIAL | | |
| 16 | | | | | GREASE, SHELL | | 50-11-37 | | |
| 17 | | | | | LACQUER ENAMEL, OLIVE DRAB | II | 3-162 | | (a) |
| 18 | | | | | PAINT, STENCIL, YELLOW | | 3-179 | | (h) |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |

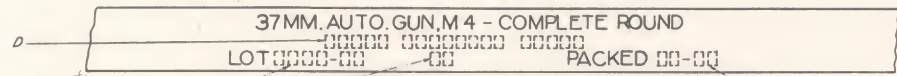
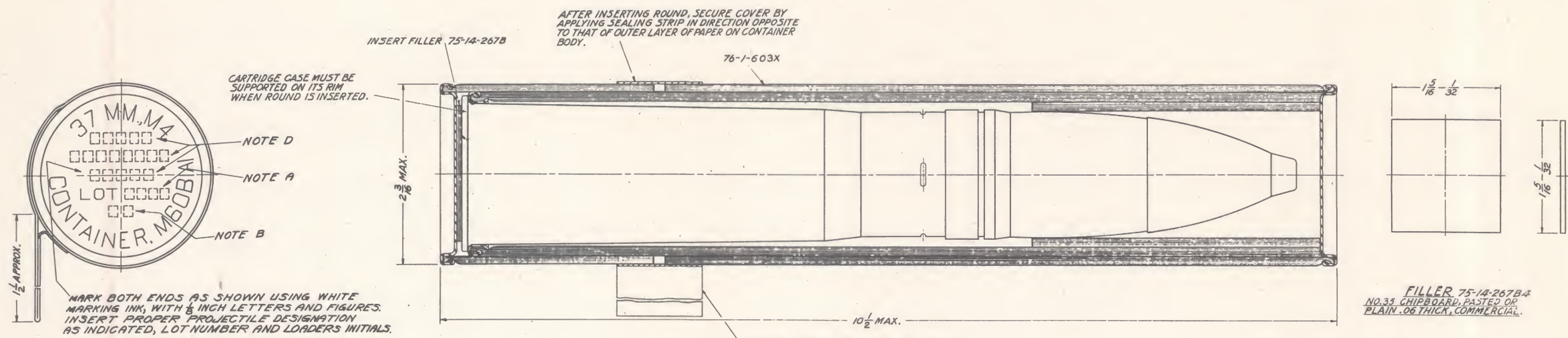
(2) ALTERNATIVE MATERIAL: - ENAMEL, OLIVE DRAB, GRADE II, SPEC. 3-67.
 (b) USE WHEN LOADING SHELL WITH AMATOL.
 (c) FOR 80-20 AMATOL LOADING, SEE SPEC. 50-15-3.
 (d) FUZE, P.D., MSIA4, MOD. 3, ASSEMBLY, 73-2-163A, WITH TUBE, 73-2-163B AND CLOSING HEAD, 75-4-88L, FOR DELAY ACTION (AS SHIPPED).
 (e) FUZE, P.D., MSIA4, MOD. 3, ASSEMBLY, 73-2-163A, WITH TUBE, 73-2-163B AND HEAD ASSEMBLY, 73-2-143C, FOR SUPER-QUICK ACTION.
 (f) FUZE, M.T., M6TA3 ASSEMBLY, 73-7-97A, WITH RETAINING SCREW, 75-4-88G, & CLOSING HEAD, 75-4-88L, FOR TIME ACTION.
 (g) WEIGHT INCLUDES TUBE AND CLOSING HEAD.
 (h) FUZE WELL CUP REQUIRED WITH ALL TYPES OF BURSTING CHARGES.
 (i) ALTERNATIVE: - YELLOW, GRADE I, LACQUER ENAMEL SPEC. 3-162 OR ENAMEL, SPEC. 3-67.
 (j) THESE PARTS TO BE PLACED IN SHIPPING BOX AS ACCESSORIES.
 (k) WEIGHT WITH FUZE, M.T., M6TA3, 241.62 & WITH FUZE, P.D., MSIA4, 241.72.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC NUMBER | REQUIRED BY |
|----------|---|-------------|----------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-3-1 | DRG. 75-14-258 |
| 2 | | | |
| 3 | AMMONIUM NITRATE | 50-11-59 | DRG. 75-14-258 |
| 4 | COMPOUND, N.R.C. | 50-11-10 | DRG. 75-14-258 |
| 5 | GREASE, SHELL | 50-11-37 | DRG. 75-14-258 |
| 6 | | | |
| 7 | LACQUER ENAMEL, LUSTRELESS | 3-162 | DRG. 75-14-258 |
| 8 | LOADING OF H.E. SHELL WITH TNT, 50-50 AMATOL, ETC. | 50-15-5 | DRG. 75-14-258 |
| 9 | LOADING OF H.E. SHELL WITH 80-20 AMATOL, EXTRUSION METHOD, ETC. | 50-15-3 | DRG. 75-14-258 |
| 10 | | | |
| 11 | | | |
| 12 | | | |
| 13 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATION FOR | 3-1 | 3-162 |
| 14 | ENAMEL, LUSTRELESS, QUICK DRYING | 3-67 | DRG. 75-14-258 |
| 15 | PAINT, STENCIL | 3-179 | DRG. 75-14-258 |
| 16 | | | |
| 17 | STANDARD SPECIFICATION FOR MARKING SHIPMENTS | 100-2 | DRG. 75-14-258 |
| 18 | | | |
| 19 | TRINITROTOLUENE (TNT) | 50-13-5 | DRG. 75-14-258 |
| 20 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREOF, SHALL NOT APPLY.

SUPERSEDES OLD TRACING 75-14-258A UNDER
 REVISION DATE OF JULY 21, 1944.

| | | | |
|---|--------|----------|--------------|
| SHELL, H.E., 3 INCH, M.O. 3. LOADING ASSEMBLY | | | |
| LIST OF PARTS AND LIST OF SPECIFICATIONS. | | | |
| REVISED 23.1340 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 14 | 258A |
| 1 10-3-43 | | | |
| 2 6-24-41 | | | |
| 3 9-23-42 | | | |
| 4 7-21-44 | | | |
| 5 8-15-45 | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL 2 | | | |
| FRACTIONAL 2 | | | |
| ANGULAR 2 | | | |
| DRG. PERTAINS TO | | | |
| 75-14-258 | | | |
| CHECKER | TRACER | ENGINEER | |
| H.E.R. | J.W. | M.A. | |
| SUBMITTED: | | | |
| A.M. Gallagher | | | |
| LT COL. ORD. DEPT. U.S.A. | | | |
| EXAMINED: | | | |
| R.F. Greenwald | | | |
| CAPT., ORD. DEPT. U.S.A. | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | |
| C.F. Heston | | | |
| COL. ORD. DEPT. U.S.A. | | | |
| D | | | |
| ORDNANCE DEPT., U.S.A. | | | |



MARKING OF SEALING STRIP
 MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/8 IN. HIGH USING BLACK MARKING INK, EITHER BEFORE OR AFTER APPLICATION OF SEALING STRIP. MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER. USE WHITE MARKING INK FOR BLACK SEALING STRIP.
 A-INSERT LOT NUMBER.
 B-INSERT LOADERS INITIALS.
 C-INSERT MONTH AND YEAR PACKED.
 D-INSERT "SHELL, PRACTICE, M55A1", "SHELL, H.E., M54" OR "SHOT, A.P., M80" AS APPLICABLE.

| ROUND | COLOR OF SEALING STRIP |
|------------------------|------------------------|
| SHELL, PRACTICE, M55A1 | LIGHT BLUE |
| SHELL, H.E., M54 | YELLOW |
| SHOT, A.P., M80 | BLACK |

PACKING AND MARKING APPLIES TO THE FOLLOWING ROUNDS FOR 37 MM. AUTO GUN, M4:-
 ROUND COMPLETE, SHOT, A.P. M80
 ROUND COMPLETE, SHELL, PRACTICE, M55A1.
 ROUND COMPLETE, SHELL, H.E., M54.
 FOR PACKING OF BOX SEE DRG. 20-4-236.

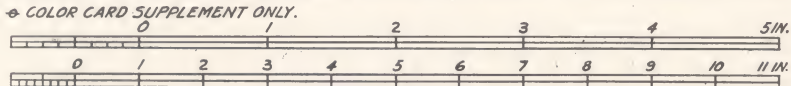
SUPERSEDES OLD TRACING 75-14-267 UNDER REVISION DATE OF NOV. 5, 1942.

| LIST OF PARTS | | | | | | | | | |
|---------------|----------------|----------------------------|------------|--------------|----------------------------|-------|--------------|----------------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | REMARKS |
| 1 | FILLER | 1 | 75-14-267B | SHEET | CHIPBOARD, PASTED OR PLAIN | | COMMERCIAL | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | STRIP, SEALING | 1 | 75-14-267A | STRIP | ADHESIVE TAPE | | 50-11-81 | | (a) |
| 6 | | | | | | | | | |
| 7 | | | | | INK, MARKING, WHITE | | 36-2 | | |
| 8 | | | | | INK, MARKING, BLACK | | 36-2 | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |

(a) FOR PROPER COLOR SEE TABULATION.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|---|----------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-267 |
| 2 | | | |
| 3 | INK, MARKING, BLACK AND WHITE (FOR MARKING AMMUNITION) | 36-2 | DRG. 75-14-267 |
| 4 | | | |
| 5 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 | 50-11-81 |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | TAPE, ADHESIVE, COLORED AND WHITE | 50-11-81 | DRG. 75-14-267 |

*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



PACKING AND MARKING OF CONTAINER, FIBER, 37 MM, M60 BIAI

NOV. 12, 1940.

| CLASS | DIVISION | DRAWING | FILE |
|-------|----------|---------|------|
| 75 | 14 | 267 | |

REVISIONS

| NO. | DATE | BY | REASON |
|-----|---------|----|--------|
| 3 | 1-23-42 | | |
| 4 | 11-3-42 | | |
| 5 | 8-15-45 | | |

SYMBOL

| OFFICER | TRACER | ENGINEER |
|---------|--------|----------|
| J.I. | J.I. | J.I. |

DRG. PERTAINS TO 20-4-236

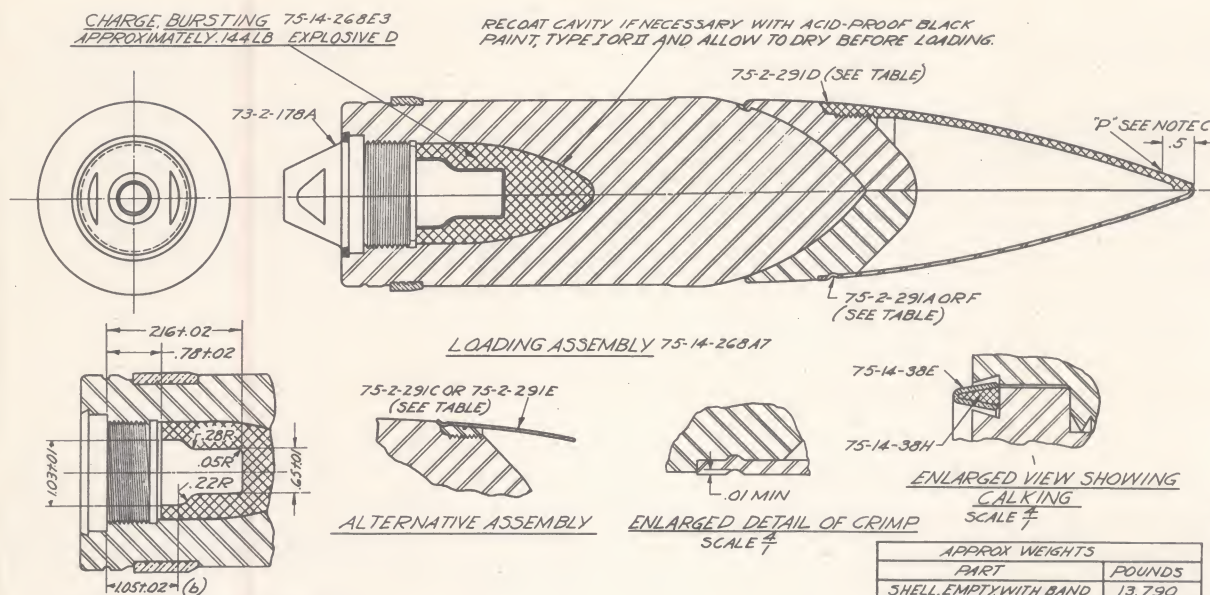
CHECKER: Sg. SUBMITTED: M.L.T.

EXAMINED: Dr. W. W. W. ET. COL., ORD. DEPT., U. S. A.

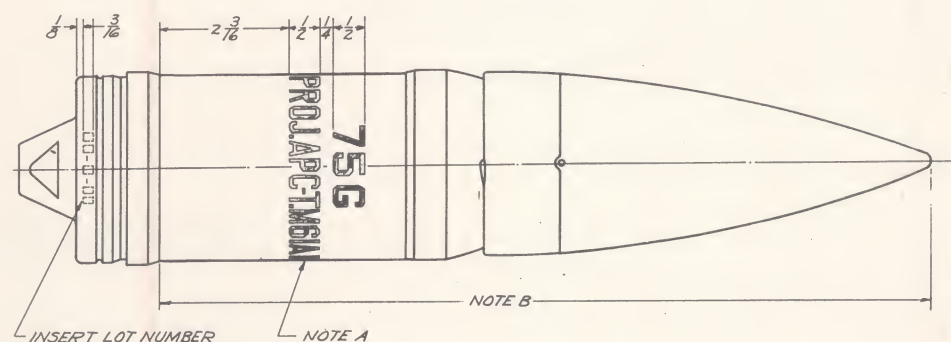
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: R. W. W. COL., ORD. DEPT., U. S. A.

ORDNANCE DEPT. U. S. A.

SUPERSEDED BY 76-1-1109 WITH CHANGE SEPTEMBER 7, 1949.



VIEW SHOWING BOOSTER CAVITY
(b) THIS DIMENSION CONTROLS TOOL MANUFACTURE.



MARKING DIAGRAM

NOTES:-
A-MARK WITH YELLOW STENCIL INK AS SHOWN AND "EXP D" ON OPPOSITE SIDE.
B-RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB.
ADVISORY:- AFTER RETOUCHING, BOURRELET SHOULD NOT EXCEED 2.948.
C-POINT "P" ON WINDSHIELD TO BE CONCENTRIC WITH AXIS OF PROJECTILE WITHIN .020(.04 INDICATOR READING).
D-ASSEMBLE WINDSHIELD AFTER PROJECTILE HAS BEEN LOADED AND FUZED.
E-SCREW WINDSHIELD DOWN FIRMLY AND SECURE BY STAKING INTO CAP NOTCHES.
F-ASSEMBLE WINDSHIELD TIGHT AGAINST CAP AND ATTACH WITH A 360° CRIMP.
G-REMOVE ALL BURRS.

SUPERSEDES 75-14-268 WITHOUT CHANGE, MARCH 10, 1949.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECEMARK | SIZE OR FORM | MATERIAL | KIND | GRADE | SPEC NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WEIGHT OF RAW STOCK PER UNIT ASSEMBLED | REMARKS |
|----------|----------------------------|----------------------------|------------|--------------|-------------------------|------|--------------|-------------|----------------------------------|--|---------|
| 1 | LOADING ASSEMBLY | 1 | 75-14-268A | | | | | 50-15-1 | 1496±.20 | | |
| 2 | METAL PARTS ASSEMBLY | 1 | SEE TABLE | | | | | AXS-494 | 1379 | | |
| 3 | FUZE, B D, MG6AI, ASSEMBLY | 1 | 73-2-178A | | | | | PXS-1008 | 100 | | |
| 4 | | | | | | | | | | | |
| 5 | CHARGE, BURSTING | 1 | 75-14-268E | | EXPLOSIVE D | | | JAN-A-166 | .144 | | |
| 6 | CHECK, GAS | 1 | 75-14-38E | STRIP | COPPER, TYPE VI | | CLASS A | QQ-C-501 | .01 | | |
| 7 | | | | | | | | | | | |
| 8 | FILLER | 1 | 75-14-38H | MOULDED | LEAD, SOFT | | SOFT | COMMERCIAL | .02 | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | INK, STENCIL, YELLOW | | | TT-F-558 | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | ENAMEL, OLIVE DRAB | | I | JAN-E-74 | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | PAINT, ACID-PROOF BLACK | | TYPE I OR II | JAN-P-450 | | | |
| 15 | | | | | | | | | | | |

LIST OF SPECIFICATIONS

| LINE NO. | SPEC NUMBER | REQUIRED BY |
|----------|---|-------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC FOR | 50-0-1 |
| 2 | AMMONIUM PICRATE (EXPLOSIVE D) | JAN-A-166 |
| 3 | | |
| 4 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 |
| 5 | | |
| 6 | FUZE, B D, MG6AI, LOADING, ASSEMBLING AND PACKING | PXS-1008 |
| 7 | | |
| 8 | INK, STENCIL, OPAQUE FOR MARKING NON-POROUS SURFACES | TT-F-558 |
| 9 | | |
| 10 | LOADING BASE FUZED SHELL WITH EXPLOSIVE D, ASSEMBLING | 50-15-1 |
| 11 | | |
| 12 | PAINT, ACID-PROOF BLACK (FOR AMMUNITION) | JAN-P-450 |
| 13 | PAINT AND RELATED MATERIALS, GENERAL SPEC FOR | 3-1 |
| 14 | PROJECTILE, ARMOR PIERCING, CAPPED, 75MM, MG6AI, ETC | AXS-494 |
| 15 | | |
| 16 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 |
| 17 | | |
| 18 | | |

* SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

| LINE NO. | ASSEMBLY | BODY | CAP | WINDSHIELD | NOTES |
|----------|-----------|-----------|----------------|----------------------|-------|
| 1 | 75-2-291A | 75-2-328F | 75-2-350A OR B | 75-2-326N (STEEL) | D, F |
| 2 | 75-2-291C | 75-2-328F | 75-2-350D | 75-2-326F (STEEL) | D, E |
| 3 | 75-2-291D | 75-2-328B | 75-2-350D | 75-2-326L (ALUMINUM) | D, E |
| 4 | 75-2-291E | 75-2-328F | 75-2-350D | 75-2-326H (STEEL) | D, E |
| 5 | 75-2-291F | 75-2-328H | 75-2-350C | 75-2-326N (STEEL) | D, F |

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---------------------------|----------------|
| 1 | LOADING ASSEMBLY | 75-14-268 |
| 2 | FUZE, B D, MG6AI ASSEMBLY | 73-2-178 |
| 3 | METAL PARTS ASSEMBLY | 75-2-291 |
| 4 | COVERS, STRIPS, ETC. | 75-14-38 |
| 5 | DETAILS | 75-2-326 |
| 6 | DETAILS | 75-2-328 |
| 7 | DETAILS | 75-2-350 |

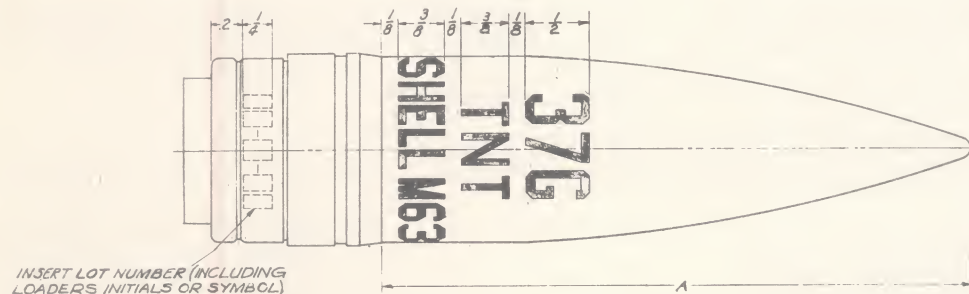
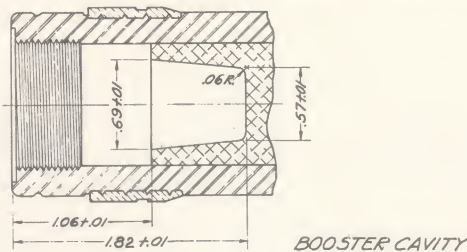
NOTICE:- THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

PROJECTILE, APC-T, 75MM, MG 6AI LOADING ASSEMBLY, MARKING DIAGRAM AND DETAILS

| | | | | | |
|---|---------|-------|----------|---------|------|
| OCT. 30, 1940 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 268 | |
| 7 | 8-15-48 | | | | |
| 8 | 9-10-49 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL | | | | | |
| FRACTION ± 1/16 | | | | | |
| ANGULAR ± | | | | | |
| DFTSMAN | | | | | |
| TRACER | | | | | |
| EN-REF | | | | | |
| CHKR | | | | | |
| ACJ | | | | | |
| SUBMITTED | | | | | |
| ORDNANCE, ORD DEPT. U.S.A. | | | | | |
| EXAMINED | | | | | |
| ORDNANCE, ORD DEPT. U.S.A. | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | | |
| ORDNANCE, ORD DEPT. U.S.A. | | | | | |
| D | | | | | |



| APPROX. WEIGHTS | |
|-------------------------|------------|
| PART | POUNDS |
| CHARGE, BURSTING | .085 |
| FUZE | .27 |
| SHELL, EMPTY, WITH BAND | 1.25 |
| WASHER | .0002 |
| GASKET | .002 |
| TOTAL WEIGHT | 1.61 ± .02 |



MARKING DIAGRAM

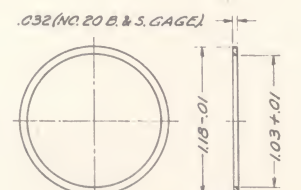
NOTES:-
A- RETOUCH THIS SURFACE, WHERE PREVIOUS COATING IS DAMAGED, WITH LACQUER, ENAMEL,
OLIVE DRAB OR ENAMEL, OLIVE DRAB.
B- MARK WITH YELLOW MARKING INK.

| LINE NO. | NAME OF PART | NUMBER REQ'D PER UNIT COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (LBS.) | APPROX. GROSS WT. OF PART (LBS.) | APPROX. NET WT. OF PART (LBS.) | REMARKS |
|----------|---------------------------|---------------------------------|------------|--------------|----------------------------|--------|--------------|--------------------------------|----------------------------------|--------------------------------|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-270A | | | | | 1.61 ±.02 | | | |
| 2 | FUZE, B.D., M58, ASSEMBLY | 1 | 73-1-174A | | | | | .27 | | | |
| 3 | METAL PARTS ASSEMBLY | 1 | 75-2-290C | | | | | 1.25 | | | |
| 4 | | | | | | | | | | | |
| 5 | CHARGE, BURSTING | 1 | 75-14-270B | FLAKE | TRINITROTOLUENE | I | 50-13-5 | .285 | | | |
| 6 | GASKET | 1 | 75-14-270C | STRIP | COPPER | SOFT | QQ-C-501 | .002 | | | |
| 7 | WASHER | 1 | 75-14-270D | ROLL | FELT | NO. 10 | 8-15 | .0002 | | | |
| 8 | | | | | INK, MARKING, YELLOW | | | .25-2 | | | |
| 9 | | | | | CEMENT, PETTMAN | | | 50-11-8 | | | |
| 10 | | | | | LACQUER ENAMEL, OLIVE DRAB | I | | .3-16.2 | | | (a) |

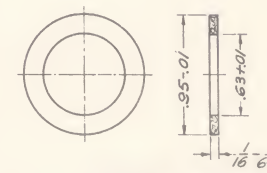
(a) ALTERNATIVE: ENAMEL OLIVE DRAB, GRADE I, SPEC 3-67

| LINE NO | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|---------|--|----------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GEN. SPEC. FOR | 50-0-1 | DRG 75-14-270 |
| 2 | | | |
| 3 | CEMENT, PETTMAN | 50-11-8 | DRG 75-14-270 |
| 4 | COPPER, BARS, PLATES, RODS, ETC. | QQ-C-501 | DRG 75-14-270 |
| 5 | | | |
| 6 | FELT, PRESSED | 8-15 | DRG 75-14-270 |
| 7 | | | |
| 8 | INK, MARKING, (FOR MARKING AMMUNITION) | 36-2 | DRG 75-14-270 |
| 9 | LACQUER ENAMEL, LUSTRELESS | 3-162 | DRG 75-14-270 |
| 10 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | QQ-C-501 |
| 11 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 | 3-67 |
| 12 | ENAMEL, LUSTRELESS, QUICK DRYING | 3-67 | DRG 75-14-270 |
| 13 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG 75-14-270 |
| 14 | TRINITROTOLUENE (TNT) | 50-13-5 | DRG 75-14-270 |

*THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY.
WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER.
SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON,
SHALL NOT APPLY.



GASKET 75-14-270C
COPPER, SOFT



WASHER 75-14-270D
FELT, NO. 10
DIAMETER DIMENSIONS CONTROL
TOOL MANUFACTURE

NOTICE THIS DRAWING SHALL NOT BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|--------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 15-14-27 |
| 2 | SHELL, 37MM, HE, MG3, ASSEMBLY | 75-2-29 |
| 3 | FUZE, B.D, MSB, ASSEMBLY | 73-1-174 |
| 4 | | |

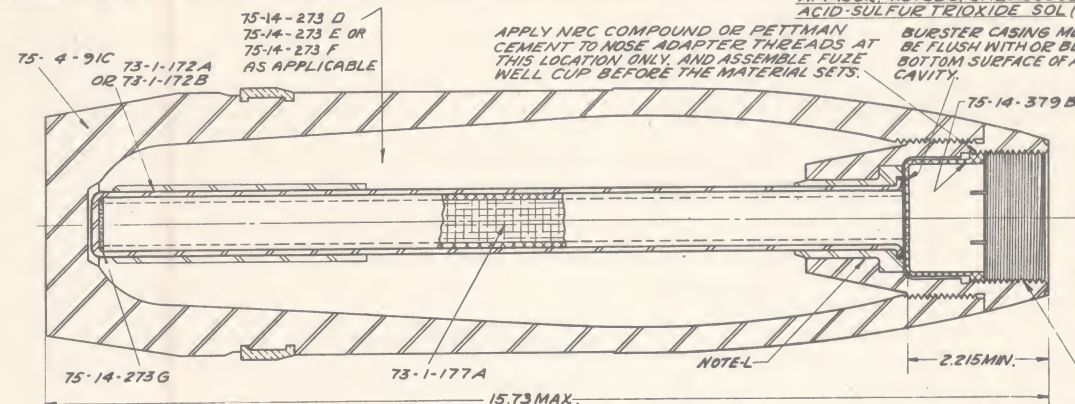
SHELL, HE, 37MM, M63 W/FUZE, BDM58
LOADING ASSEMBLY, MARKING
DIAGRAM AND DETAILS

[illegible]

CHARGE, SMOKE 75-14-273D3
(FOR 75-14-273A)
APPROX. 4.06 LBS. WHITE PHOSPHORUS (WP)

CHARGE, GAS 75-14-273E3
(FOR 75-14-273B)
APPROX. 3.17 LBS. GAS, PERSISTENT (H)

CHARGE, SMOKE 75-14-273F3
(FOR 75-14-273A)
APPROX. 4.61 LBS. CHLOROSULFONIC
ACID-SULFUR TRIOXIDE SOL (FS)



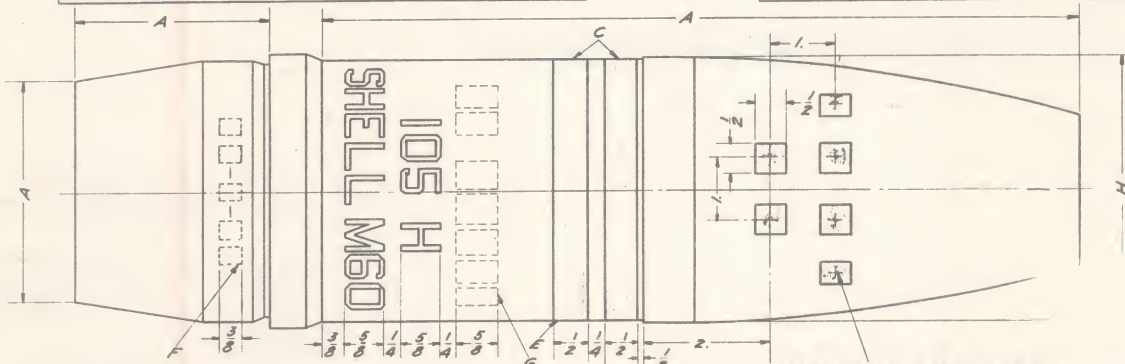
APPLY NRC COMPOUND OR PETTMAN CEMENT TO NOSE ADAPTER THREADS AT THIS LOCATION ONLY, AND ASSEMBLE FUZE WELL CUP BEFORE THE MATERIAL SETS. BURSTER CASING MUST BE FLUSH WITH OR BELOW BOTTOM SURFACE OF ADAPTER CAVITY.

SHELL LOADING ASSEMBLY (WP) 75-14-273A4
SHELL LOADING ASSEMBLY (H) 75-14-273B4
SHELL LOADING ASSEMBLY (FS) 75-14-273C4
MEAN VOLUME OF CHARGE CAVITY WITH BURSTER CASING ASSEMBLED = 70.9 CU IN.

COAT THREADS LIGHTLY AFTER LOADING: WITH RUST PREVENTIVE COMPOUND FOR H-SHELL, WITH SHELL GREASE FOR FS & WP SHELL.

| APPROXIMATE WEIGHTS | POUNDS | | |
|-----------------------------|----------|----------|----------|
| | WP | H | FS |
| SHELL, EMPTY (WITH ADAPTER) | 26.58±60 | 26.58±60 | 26.58±60 |
| CASING, BURSTER, M5 | 1.48 | 1.48 | 1.48 |
| CHARGE, BURSTER, M5 | .51 | .51 | .51 |
| CHARGE, GAS | 4.06 | 3.17 | 4.61 |
| CUP, FUZE WELL | .06 | .06 | .06 |
| TOTAL WEIGHT, UNFUZED | 32.69 | 31.80 | 33.24 |

| WEIGHT ZONES | LOADING SHELL WITHOUT FUZE | | | MARK | | |
|--------------|----------------------------|---------------------------|------|------|---|----|
| | OVER POUNDS | UPTO AND INCLUDING POUNDS | MARK | WF | H | FS |
| 1 | | | | | | |
| 2 | 30.5 | 31.2 | | | | |
| 3 | 31.1 | 31.8 | | | | |
| 4 | 31.7 | 32.4 | | | | |
| 5 | 32.3 | 33.0 | | | | |
| 6 | 32.9 | 33.6 | | | | |
| 7 | 33.5 | 34.2 | | | | |



MARKING DIAGRAM

- NOTES:
- A. RECOAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH BLUE GRAY, GRADE I, LACQUER ENAMEL OR ENAMEL.
 - B. MARK GAS SHELL, 75-14-273B, WITH GREEN, GRADE I, LACQUER ENAMEL OR ENAMEL, OR GREEN STENCIL INK.
 - C. MARK GAS SHELL, 75-14-273B, WITH TWO GREEN BANDS AS SHOWN.
 - D. MARK SMOKE SHELLS, 75-14-273A AND 75-14-273C, WITH YELLOW, GRADE I, LACQUER ENAMEL OR ENAMEL, OR YELLOW STENCIL INK.
 - E. MARK SMOKE SHELLS, 75-14-273A AND 75-14-273C, WITH ONE YELLOW BAND AS SHOWN.
 - F. INSERT LOT NUMBER.
 - G. INSERT "WP SMOKE" FOR 75-14-273A, "H GAS" FOR 75-14-273B, "FS SMOKE" FOR 75-14-273C.
 - K. A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL, TO THE REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.

L - PRESS FIT CLOSURE TO BE ACCOMPLISHED WITH THE FOLLOWING LUBRICANT:
WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL..... 93%
LINSEED OIL, BOILED..... 7%
ABOVE PERCENTAGES BY WEIGHT.

PAD 75-14-273 G3
FELT, NO. 10
DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC. NUMBER | APPROX. UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF PART STOCK PER UIC ASSEMBLIES | REMARKS |
|----------|-----------------------------------|---------------------------|------------|--------------|--|--------|--------------|------------------------------|--|---------|
| 1 | SHELL LOADING ASSEMBLY (WP) | | 75-14-273A | | | | 96-131-68 | 32.69 | | |
| 2 | SHELL LOADING ASSEMBLY (H) | | 75-14-273B | | | | 96-131-67 | 31.80 | | |
| 3 | SHELL LOADING ASSEMBLY (FS) | | 75-14-273C | | | | 96-131-69 | 33.24 | | |
| 4 | METAL PARTS ASSEMBLY | 1 | 75-4-91C | | | | 50-30-1 | 26.58 | | |
| 5 | | | | | | | | | | |
| 6 | BURSTER, CASING, M5 ASSEMBLY | 1 | 73-1-172A | | | | 50-47-6 | 1.48 | | |
| 7 | BURSTER, CASING, M5 (ALTERNATIVE) | 1 | 73-1-172B | | | | 50-47-6 | 1.53 | | |
| 8 | CHARGE, BURSTER, M5 ASSEMBLY | 1 | 73-1-177A | | | | 50-52-1 | .51 | | |
| 9 | CHARGE, GAS | 1 | 75-14-273E | | GAS, PERSISTENT (H) | | 196-21-2 | 3.17 | | |
| 10 | CHARGE, SMOKE | 1 | 75-14-273F | | CHLOROSULFONIC ACID-SULFUR TRIOXIDE SOL (FS) | | 196-31-5 | 4.61 | | |
| 11 | CHARGE, SMOKE | 1 | 75-14-273D | | WHITE PHOSPHORUS (WP) | | 4-523-305 | 4.06 | | (a) |
| 12 | CUP, FUZE WELL | 1 | 75-14-379B | CAST | | | | .06 | | |
| 13 | PAD | 1 | 75-14-273G | ROLL | PRESSED FELT | NO. 10 | 8-15 | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | GREASE, SHELL | | 50-11-37 | | | |
| 17 | | | | | COMPOUND, NRC | | 50-11-10 | | | (b) |
| 18 | | | | | COMPOUND, RUST PREVENTIVE | HEAVY | 2-82 | | | |
| 19 | | | | | LACQUER ENAMEL, BLUE GRAY | I | JAN-L-73 | | | (c) |
| 20 | | | | | LACQUER ENAMEL, GREEN | I | JAN-L-73 | | | (d) |
| 21 | | | | | LACQUER ENAMEL, YELLOW | I | JAN-L-73 | | | (e) |
| 22 | | | | | LINSEED OIL | | JU-O-331 | | | |
| 23 | | | | | WHITE LEAD | | TT-W-261 | | | |
| 24 | | | | | | | | | | |

- (a) INCLUDES LAYER OF WATER 1/8 IN. THICK.
(b) ALTERNATIVE: PETTMAN CEMENT, TYPE I OR II, SPEC. JAN-C-99
(c) ALTERNATIVE: ENAMEL, BLUE GRAY, GRADE I, SPEC. JAN-E-74
(d) ALTERNATIVE: ENAMEL, GREEN, GRADE I, SPEC. JAN-E-74 OR INK, GREEN, SPEC. TT-I-55B
(e) ALTERNATIVE: ENAMEL, YELLOW, GRADE I, SPEC. JAN-E-74 OR INK, STENCIL YELLOW, SPEC. TT-I-55B

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-273 |
| 2 | CEMENT, PETTMAN | JAN-C-99 | DRG. 75-14-273 |
| 3 | CHLOROSULFONIC ACID-SULFUR TRIOXIDE SOLUTION (FS) | 196-31-5 | DRG. 75-14-273 |
| 4 | COMPOUND, NRC | 50-11-10 | DRG. 75-14-273 |
| 5 | COMPOUND, RUST PREVENTIVE, HEAVY | 2-82 | DRG. 75-14-273 |
| 6 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 | DRG. 75-14-273 |
| 7 | FELT, PRESSED | 8-15 | DRG. 75-14-273 |
| 8 | GAS, MUSTARD (H) | 196-21-2 | DRG. 75-14-273 |
| 9 | INK, STENCIL | TT-I-55B | DRG. 75-14-273 |
| 10 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG. 75-14-273 |
| 11 | LINSEED OIL, BOILED | JU-O-331 | DRG. 75-14-273 |
| 12 | GREASE, SHELL | 50-11-37 | DRG. 75-14-273 |
| 13 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-L-73 |
| 14 | PHOSPHORUS, WHITE (WP) | 4-523-305 | DRG. 75-14-273 |
| 15 | FILLING, 105 MM CHEM. SHELL, M60 (WP=96-131-68) (H=96-131-67) (FS) 96-131-69 | DRG. 75-14-273 | |
| 16 | WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL | TT-W-261 | DRG. 75-14-273 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HEREON, SHALL NOT APPLY.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|-------------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-273 |
| 2 | METAL PARTS ASSEMBLY | 75-4-91 |
| 3 | CASING, BURSTER, M5 ASSEMBLY | 73-1-172 |
| 4 | CHARGE, BURSTER, M5 ASSEMBLY | 73-1-177 |
| 5 | LOADING ACCESSORIES FOR PROJECTILES | 75-14-379 |
| 6 | | |

SUPERSEDES OLD TRACINGS 75-14-273, 75-14-274 & 75-14-275, UNDER REVISION DATE OF 2-8-45

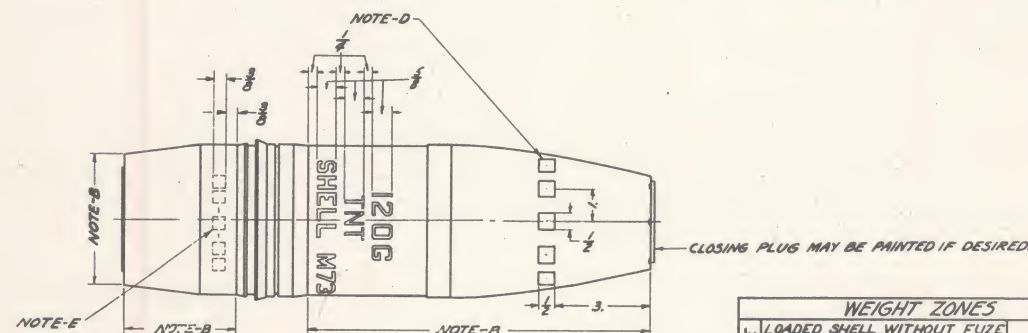
SHELL, CHEMICAL, 105 MM, M60
LOADING ASSEMBLY MARKING
DIAGRAM AND DETAILS

| | | | | |
|---|-------|----------|---------|------|
| JANUARY 21, 1941 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 14 | 273 | |
| 2 9-23-42 | | | | |
| 3 2-8-43 | | | | |
| 4 8-15-45 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMALS | | | | |
| FRACTIONAL | | | | |
| ANGULAR | | | | |
| DTPSMAN | | | | |
| CHECKER | | | | |
| SUBMITTED | | | | |
| EXAMINED | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| C. S. Reed | | | | |
| COL., ORDN. DEPT., U.S.A. | | | | |
| ORDNANCE DEPT., U.S.A. | | | | |



| APPROX. WEIGHTS | T.N.T. | POUNDS |
|-----------------------|-------------|--------|
| SHELL WEIGHT, EMPTY | 42.13 ± .75 | |
| CHARGE, BURSTING | 5.26 | |
| | | |
| TOTAL WEIGHT, UNFUZED | 47.39 | |
| PLUG, CLOSING | .37 | |
| SHIPPING WEIGHT | 47.76 | |

NOTE
TNT CHIPPED OR BROKEN FROM
THE SIDE WALL OF THE BOOSTER
CAVITY NEED NOT BE REPLACED.



MARKING DIAGRAM

NOTES:-

NOTES:-
A-MARK WITH YELLOW MARKING INK.
B-RETOUCH SURFACE OF SHELL WHERE PREVIOUS COAT IS DAMAGED
WITH OLIVE DRAB LACQUER ENAMEL, OR ENAMEL.

C - A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND IN LETTERS AND FIGURES NOT OVER $\frac{1}{4}$ INCH HIGH.
D - SAMPLE WEIGHT MARKING.

E- INSERT LOT NUMBER (INCLUDING LOADERS INITIALS OR SYMBOL).

| WEIGHT ZONES | | | | |
|--------------|---------------------------|-------------------|--|-----------|
| ZONE | LOADED SHELL WITHOUT FUZE | | | MARK |
| | OVER | UP TO & INCLUDING | | |
| | POUNDS | POUNDS | | |
| | | | | |
| 3 | 46.38 | 47.27 | | □ □ □ |
| 4 | 47.3 | 48.02 | | □ □ □ □ |
| 5 | 47.88 | 48.77 | | □ □ □ □ □ |

[illegible]

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|----------------|
| 1 | | | |
| 2 | AMMUNITION, EXCEPT SMALL ARMS AMM, GEN. SPEC. FOR | 50-0-1 | DRG. 75-14-318 |
| 3 | | | |
| 4 | | | |
| 5 | INK, MARKING | 36-2 | DRG. 75-14-318 |
| 6 | LACQUER ENAMEL, LUSTRELESS | 3-162 | DRG. 75-14-318 |
| 7 | LOADING OF HIGH EXPLOSIVE SHELL WITH TRINITROTOLUENE | | |
| 8 | (TNT), CASTING METHOD, | | |
| 9 | ASSEMBLING AND PACKING | 50-15-5 | DRG. 75-14-318 |
| 10 | | | |
| 11 | PAINTS AND RELATED MATERIALS, GENERAL SPECS FOR | 3-1 | 3-162 |
| 12 | ENAMEL, LUSTRELESS | 3-67 | DRG. 75-14-318 |
| 13 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG. 75-14-318 |
| 14 | | | |
| 15 | TRINITROTOLUENE (TNT) | 50-13-5 | DRG. 75-14-318 |
| 16 | | | |

(a) REQUIRED WHEN BOOSTER OR FUZE IS NOT ASSEMBLED^a
IN SHELL IMMEDIATELY AFTER LOADING.
(b) ALTERNATIVE- OLIVE DRAB ENAMEL, GRADE 1, SPEC. 3-67.

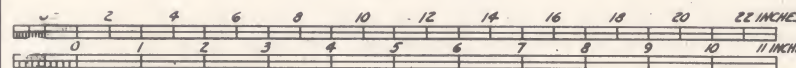
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|-------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-310 |
| 2 | METAL PARTS SHIPPING ASSEM. | 75-18-40 |
| 3 | PLUGS CLOSING FOR PROJECTILES | 75-14-40 |
| 4 | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY. .

NOTICE: THE DRAWING SHALL
NOT BE USED FOR REPRODUCTION
WITHOUT THE WRITTEN PERMISSION OF
THE U.S. GOVERNMENT PRINTING OFFICE
SECTION OF THE UNITED STATES
GOVERNMENT PROCUREMENT

SHELL HE 120-MM. M 73
LOADING ASSEMBLY MARKING DIAGRAM
AND DETAILS.

| | | | | | | |
|-------------------|---------|--|---|----------|---------|------|
| NOVEMBER 13, 1941 | | | CLASS | DIVISION | DRAWING | FILE |
| REVISONS | | | 75 | 14 | 318 | |
| 1 | 6-9-42 | | SYMBOL | | | |
| 2 | 9-23-42 | | | | | |
| 3 | 4-9-45 | | | | | |
| 4 | 8-15-45 | | | | | |
| DRG. PERTAINS TO | | | OFFTBRN <i>W.E.R.</i> TRACER <i>R.H.D.</i> ENGINEER <i>W.E.R.</i> CHECKER <i>W.E.R.</i> CHECK <i>W.E.R.</i> CHIEF OFFTBRN <i>M.T.</i> SUBMITTED: <i>[Signature]</i> COL. ORG. DEPT. U.S. | | | |
| | | | EXAMINED: <i>H. J. Wagner</i> LT. COL. ORG. DEPT. U.S. APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>[Signature]</i> LT. COL. ORG. DEPT. U.S. | | | |
| D | | | ORDNANCE DEPT. U.S. LT. COL. ORG. DEPT. U.S. | | | |

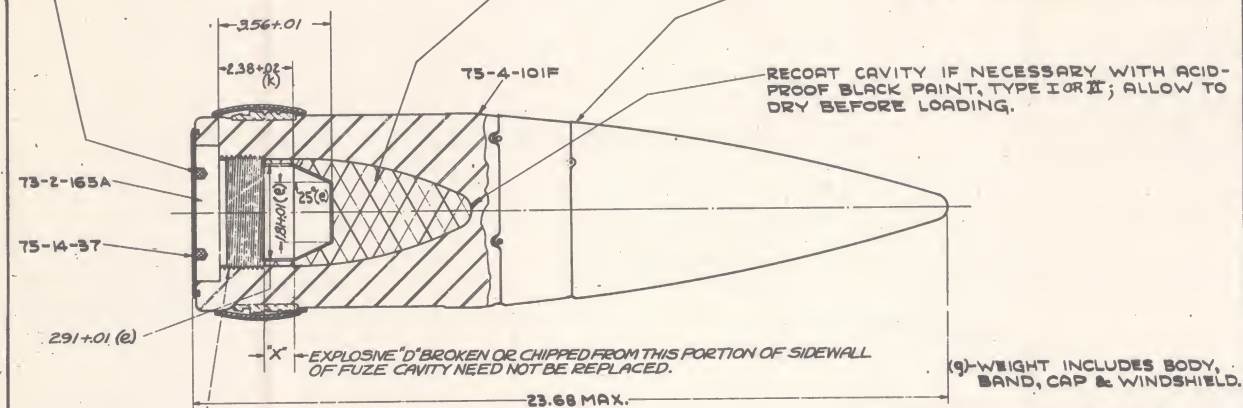


0-11710

NOTE:- AFTER ASSEMBLING FUZE IN PROJECTILE INSERT AND PEEN WRENCH HOLE FILLING PLUGS AND FINISH FLUSH WITH SURFACE OF FUZE.

CHARGE, BURSTING 75-14-320B1 APPROX. 1.44 LBS., EXPLOSIVE "D".

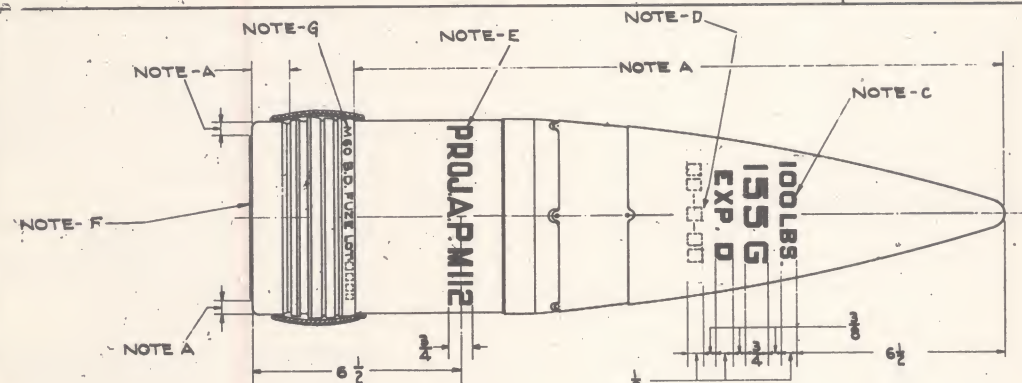
WINDSHIELD TO BE REMOVED BEFORE ASSEMBLING FUZE. AFTER ASSEMBLING FUZE, SCREW WINDSHIELD DOWN FIRMLY & SECURE BY STAKING.



(e) TOOL DIMENSIONS
(k) FOR ALTERNATIVE LOADING, FILL CAVITY TO THIS DIMENSION AND COAT THREADS OF PROJECTILE AND FUZE, LIGHTLY, WITH SHELL GREASE BEFORE ASSEMBLING.

SHELL LOADING ASSEMBLY 75-14-320A2
MEAN VOLUME OF CHARGE CAVITY, FUZE ASSEMBLED = 27.5 CU. IN.
(f) FOR ALTERNATIVE LOADING WEIGHT OF CHARGE = 1.34 LBS., AND FILLER RING IS USED.

| APPROX. WEIGHTS | POUNDS |
|----------------------------------|-------------|
| PROJECTILE, EMPTY, (g) | 88.71 ± 1.5 |
| CHARGE, BURSTING (EXPLOSIVE "D") | 1.44 (f) |
| COVER, BASE, COMPLETE | .63 |
| FUZE, B.D., M60 | 9.22 |
| RING, FILLER | .10 (f) |
| TOTAL WEIGHT | 100.00 |
| GROMMET, ASSEMBLY | .70 |
| SHIPPING WEIGHT | 100.70 |



MARKING DIAGRAM

- NOTES:-
- A-RECOAT THE EXTERIOR SURFACE AS INDICATED WITH YELLOW LACQUER ENAMEL, OR YELLOW ENAMEL.
 - B-MARK WITH BLACK STENCIL PAINT, ENAMEL OR LACQUER ENAMEL.
 - C-INSERT WEIGHT, AS FIRED, TO NEAREST POUND.
 - D-INSERT LOT NUMBER OF LOADED PROJECTILE.
 - E-INSERT PROJECTILE AP M112, OR PROJECTILE AP M112B1, AS APPLICABLE.
 - F-INSERT SHORT DELAY ON BASE COVER, WITH 1/2 LETTERS.
 - G-STAMP WITH 1/2 LETTERS AND FIGURES, FUZE DESIGNATION AND LOT NUMBER ON ROTATING BAND, AS SHOWN.
 - H-A SERIAL NUMBER, OR PROCESS-CONTROL MARKING, MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND, IN LETTERS OR FIGURES NOT OVER 1/2 HIGH.

LIST OF PARTS

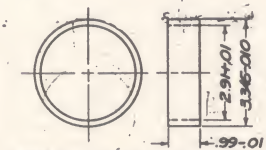
| LINE NO. | NAME OF PART | NUMBER REQ. PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC. NUMBER | APPROX. UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF BOX STOCK PER BOX ASSEMBLED | REMARKS |
|----------|------------------------------------|---------------------------|------------|--------------|-------------------------|--------------|--------------|------------------------------|--|---------|
| 1 | PROJECTILE LOADING ASSEMBLY | | 75-14-320A | | | CLASS "A" | 50-15-1 | 100.00 | | |
| 2 | PROJECTILE METAL PARTS ASSEMBLY | 1 | 75-4-101F | | | | AXS-661 | 88.71 | | |
| 3 | FUZE, B.D., M60 ASSEMBLY | 1 | 75-2-165A | | | | PXS-889 | 9.22 | | |
| 4 | BASE COVER ASSEMBLY | 1 | 75-14-37 | TYPE III | | | | .63 | | |
| 5 | CHARGE, BURSTING | 1 | 75-14-320B | | EXPLOSIVE "D" | | JAN-A-166 | 1.44 | | |
| 6 | RING, FILLER | 1 | 75-14-320C | MOLDED | PLASTIC | | AXS-698 | .10 | | (h) |
| 7 | PROJECTILE METAL PARTS ASSEM (ALT) | | 75-4-108F | | | | AXS-661 | 88.71 | | |
| 8 | | | | | GREASE SHELL | | 50-11-37 | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | LACQUER ENAMEL, YELLOW | I | JAN-L-73 | | | (a) |
| 12 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | 3-106 | | | |
| 13 | | | | | PAINT, STENCIL BLACK | | 3-179 | | | (b) |
| 14 | | | | | | | | | | |

- (a)-ALTERNATIVE; ENAMEL, YELLOW, GRADE I, SPEC. JAN-L-74.
(b)-ALTERNATIVE; ENAMEL, BLACK, GRADE I, SPEC. JAN-E-74, OR LACQUER ENAMEL, BLACK, GRADE I, SPEC. JAN-L-73
(h)-USED WITH ALTERNATIVE LOADING ONLY.

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GEN. SPEC. FOR | 50-0-1 DRG. 75-14-320 |
| 2 | AMMONIUM PICRATE, EXPLOSIVE "D" | JAN-A-166 DRG. 75-14-320 |
| 3 | FUZE, B.D., M60 LOADING, ASSEMBLING AND PACKING | PXS-889 DRG. 75-14-320 |
| 4 | GREASE, SHELL | 50-11-37 DRG. 75-14-320 |
| 5 | | 5-7 DRG. 75-14-320 |
| 6 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 DRG. 75-14-320 |
| 7 | LOADING BASE FUZE SHELL WITH EXPLOSIVE "D" ASSEMBLING & PACKING | 50-15-1 DRG. 75-14-320 |
| 8 | PAINT, ACID-PROOF BLACK, FOR AMMUNITION | 3-106 DRG. 75-14-320 |
| 9 | PAINTS AND RELATED MATERIALS, GEN. SPECIFICATION FOR (c) | 3-1 JAN-L-73 |
| 10 | ENAMEL, LUSTRELESS | JAN-L-74 DRG. 75-14-320 |
| 11 | PAINT, STENCIL | 3-179 DRG. 75-14-320 |
| 12 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 DRG. 75-14-320 |
| 13 | PLASTIC MOLDED PARTS FOR AMMUNITION | AXS-698 DRG. 75-14-320 |
| 14 | | |
| 15 | | |

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RING, FILLER 75-14-320C1 MOLDED PLASTIC COMPOUND



| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---|----------------|
| 1 | LOADING ASSEMBLY | 75-14-320 |
| 2 | METAL PARTS ASSEMBLY | 75-4-101F |
| 3 | FUZE, B.D., M60 | 75-2-165A |
| 4 | COVER, BASE & WRENCH HOLE | 75-14-37 |
| 5 | BOX, PACKING FOR, ETC. | 76-2-81 |
| 6 | PACKING & MARKING OF BOX FOR 155MM AND 6 INCH PROJECTILES | 76-4-371 |

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART, EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

PROJECTILE, A.P., 155 MM, M112 B & M112 B1
LOADING ASSEMBLY
MARKING DIAGRAM AND DETAILS

| | | | | |
|--|---------|--------|----------|--------------|
| DECEMBER 10, 1941 | | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | | 75 | 14 | 320 |
| 1 | 5-8-42 | | | |
| 2 | 8-15-45 | | | |
| DRG. PERTAINS TO | | | | |
| DESIGNED | CHECKED | TRACED | BY | DATE |
| R.R.S. | R.R.S. | R.R.S. | R.R.S. | KL 7-4 |
| SUBMITTED | | | | |
| H. R. Jammer | | | | |
| EXAMINED | | | | |
| 10/11/45 | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| BRIG. GEN. J. H. DEPT. U.S.A. | | | | |
| ORDNANCE DEPT., U.S.A. | | | | |

Technical drawing of a ship's hull cross-section, showing internal structure and dimensions. The drawing includes the following labels and dimensions:

- FREE SPACE TO BE DETERMINED AND FILLERS OF TOTAL THICKNESS EQUAL TO THE SPACE PLUS APPROX. 10% TO BE INSERTED IN SPACE BELOW BOTTOM SPACER.
- 75-4-105A (M84)
- 75-14-34/H
- 75-14-34/H
- 75-4-105B, (M84 B1)
- 75-14-34/B
- 15.1 MAX.

[illegible]

NOTES:-
A- RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED WITH ENAMEL, BLUE-GRAY.
RETOUCHING OF BASE AND SHELL TO THE REAR OF ROTATING BAND IS OPTIONAL.
B- MARK WITH YELLOW LACQUER ENAMEL OR ENAMEL OR YELLOW MARKING INK.
C- A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL, TO THE REAR
OF THE ROTATING BAND, IN LETTERS AND FIGURES NOT OVER 1/8 INCH HIGH.

CHARGE, BURSTER 75-14-341C4
14-01LB. ARMY BLACK POWDER, GRADE A-3a

MACHINE LOCKSTITCHED
WITH COTTON THREAD,
TYPE I.41, 3 CORD, NO. 20,
8 TO 12 STITCHES PER INCH

3 1/2"

3 1/2"

BLK. PDR.
14 LB.
GR. A-3a

MACHINE LOCKSTITCHED WITH
COTTON THREAD, TYPE-IA 1,
CORD, NO. 20, 8 TO 12 STITCHES
PER INCH, THEN TURN BAG
INSIDE OUT.

Technical drawing of a circular part with a central hole. The drawing includes a top view (left) and a side view (right).

Top View (Left): Shows a large circle with a smaller concentric circle in the center. The outer diameter is dimensioned as $2.67 \pm .01$. The inner diameter is dimensioned as $1.0 \pm .01$.

Side View (Right): Shows a cylinder with a central hole. The outer diameter is dimensioned as $2.67 \pm .01$. The inner diameter is dimensioned as $1.0 \pm .01$. The length of the part is dimensioned as $0.90 \pm .005$.

FILLER 75-14-341A
BINDERS BOARD, COMMERCIAL
SPECIFIC GRAVITY-.8 MIN., 1.0 MAX.

(a) CHEMICAL WARFARE DRGS.

SHELL SMOKE, 105 MM, M84 (BASE EJECTION).
SHELL LOADING ASSEMBLY.
MARKING DIAGRAM AND DETAILS.

| | | | | | | | | | | | |
|-------------------|---------|--|--|--|--|----------|--|------------|--|------|--|
| FEBRUARY 16, 1942 | | | | CLASS | | DIVISION | | DRAWING | | FILE | |
| REVISONS | | | | 75 | | 14 | | 341 | | | |
| 2 | 7-5-43 | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | | | |
| 3 | 5-10-44 | | | DECIMAL 2 | | | | | | | |
| 4 | 8-15-45 | | | FRACTIONAL 2 | | | | | | | |
| | | | | ANGULAR 2 | | | | | | | |
| DRG. PERTAINS TO | | | | DFTSMAN | | TRACER | | ENGIN | | | |
| | | | | A.E.R. | | C.R. | | R.H.S. | | | |
| 75-1-148 | | | | CHECKER | | O.D. | | FURNISHING | | ENGR | |
| 75-1-183 | | | | R.H.S. | | | | C.F.M.C. | | | |
| | | | | SUBMITTED: | | | | | | | |
| | | | | G. M. Gallagher | | | | | | | |
| | | | | CAPT. & COL. ORD. DEPT. U.S. | | | | | | | |
| | | | | EXAMINED: | | | | | | | |
| | | | | CAPT. & COL. ORD. DEPT. U.S. | | | | | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | | | | |
| | | | | G. S. Reed | | | | | | | |
| | | | | CAPT. & COL. ORD. DEPT. U.S. | | | | | | | |
| D | | | | ORDNANCE DEPT. U.S.A. | | | | | | | |

| LIST OF PARTS | | | | | | | | | |
|---------------|----------------------------|-------------------------------|------------|--------------|-------------------------|----------|--------------|-----------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | PIECE-MARK | MATERIAL | | | SPEC. NO. | APPROXIMATE WEIGHT (POUNDS) | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-341A | | | | | 31.45 | |
| 2 | METAL PARTS ASSEMBLY MB4 | 1 | 75-4-105A | | | | AXS-877 | 23.76 | |
| 3 | METAL PARTS ASSEMBLY MB4BI | 1 | 75-4-105B | | | | AXS-877 | 23.76 | |
| 4 | | | | | | | | | |
| 5 | BURSTER ASSEMBLY | | 75-14-341B | | | | | .14 | |
| 6 | SMOKE ASSEMBLY (H.C.) | 3 | 815-11-22 | | | | 196-131-73 | 2.50 | (e) |
| 7 | SMOKE ASSEMBLY, M2, YELLOW | 3 | 815-11-60 | | | | 196-131-162B | 1.64 | (e) |
| 8 | SMOKE ASSEMBLY, M2, RED | 3 | 815-11-60 | | | | 196-131-162B | 1.77 | (e) |
| 9 | SMOKE ASSEMBLY, M2, VIOLET | 3 | 815-11-60 | | | | 196-131-162B | 1.71 | (e) |
| 10 | SMOKE ASSEMBLY, M2, GREEN | 3 | 815-11-60 | | | | 196-131-162B | 1.71 | (e) |
| 11 | | | | | | | | | |
| 12 | BAG, POWDER | 1 | 75-14-341D | BOLT | COTTON CARTRIDGE CLOTH | "C" | 50-11-65 | | |
| 13 | CHARGE, BURSTER | 1 | 75-14-341C | | ARMY BLACK POWDER | A-30 | 50-14-1 | .14 | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | FILLER | (C) | 75-14-341K | SHEET | BINDERS BOARD | | COMMERCIAL | .01 | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | SPACER | 4 | 75-14-341H | SHEET | BINDERS BOARD | | COMMERCIAL | .01 | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |
| 41 | | | | | | | | | |
| 42 | | | | | ENAMEL, BLUE-GRAY | I | 3-67 | | |
| 43 | | | | | | | | | |
| 44 | | | | | | | | | |
| 45 | | | | | INK, MARKING, INDELIBLE | TYPE "B" | TT-1-542 | | |
| 46 | | | | | | | | | |
| 47 | | | | | | | | | |
| 48 | | | | | LACQUER ENAMEL, YELLOW | I | 3-162 | | (b) |
| 49 | | | | | N.R.C. COMPOUND | "A" | 50-11-10 | | |
| 50 | | | | | | | | | |
| 51 | | | | | | | | | |
| 52 | | | | | | | | | |
| 53 | | | | | | | | | |
| 54 | | | | | THREAD, COTTON | TYPE 1A1 | V-T-276 | | |
| 55 | | | | | | | | | |
| 56 | | | | | | | | | |

(b) ALTERNATIVE MATERIAL: -ENAMEL, YELLOW, GRADE I, SPEC. 3-67 OR INK, MARKING, YELLOW, SPEC. 36-2

(c) ONE OR MORE FILLERS AS REQUIRED TO ASSEMBLE CONTENTS TIGHTLY.

(e) USE ONE GROUP OF SMOKE ASSEMBLIES PER SHELL, AS APPLICABLE.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NO. * | REQUIRED BY |
|----------|---|--------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GEN. SPEC. FOR | 50-0-1 | DRG. 75-14-341 |
| 2 | CANISTER, SMOKE, COLORED, M2 (FOR 105MM. B.E. CHEMICAL SHELL, MB4) | 196-131-162B | DRG. 75-14-341 |
| 3 | CANISTER, SMOKE, H.C. M1, FOR SHELL, CHEMICAL, 105MM. (BASE EJECTION) | 196-131-73 | DRG. 75-14-341 |
| 4 | CLOTH, COTTON, CARTRIDGE | 50-11-65 | DRG. 75-14-341 |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | INK, MARKING, INDELIBLE (FOR) FABRICS | TT-1-542 | DRG. 75-14-341 |
| 12 | INK, MARKING (FOR MARKING AMMUNITION) | 36-2 | DRG. 75-14-341 |
| 13 | | | |
| 14 | LACQUER ENAMEL, LUSTRELESS, FOR AMMUNITION | 3-162 | DRG. 75-14-341 |
| 15 | | | |
| 16 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 5T-136 |
| 17 | N.R.C. COMPOUND | 50-11-10 | DRG. 75-14-341 |
| 18 | PAINTS AND RELATED MATERIALS, GEN. SPEC. FOR | 3-1 | 3-162 |
| 19 | ENAMEL, LUSTRELESS, QUICK-DRYING, FOR AMMUNITION | 3-67 | DRG. 75-14-341 |
| 20 | | | |
| 21 | | | |
| 22 | POWDER, BLACK, ARMY | 50-14-1 | DRG. 75-14-341 |
| 23 | | | |
| 24 | SHELL, SMOKE, BASE EJECTION TYPE, METAL PARTS FOR | AXS-877 | DRG. 75-4-105 |
| 25 | | | |
| 26 | | | |
| 27 | | | |
| 28 | THREAD, COTTON | V-T-276 | DRG. 75-14-341 |
| 29 | | | |
| 30 | | | |
| 31 | | | |
| 32 | | | |

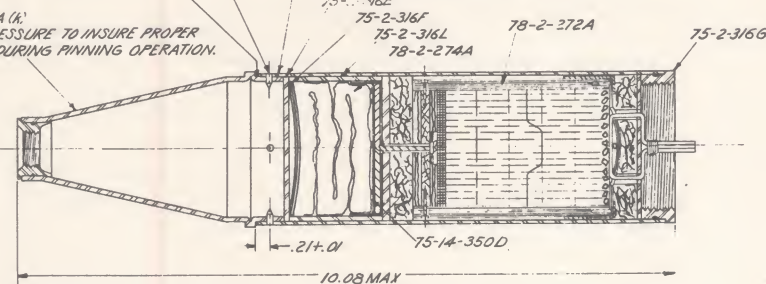
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| | | | |
|---|----------------------|----------------|------------------|
| SHELL, SMOKE, 105MM, MB4 (BASE EJECTION) SHELL LOADING ASSEMBLY, LIST OF PARTS AND LIST OF SPECIFICATIONS. | | | |
| FEBRUARY 16, 1942 | | | |
| REVISIONS | CLASS | DIVISION | DRAWING FILE |
| 1 12-1-42 | 75 | 14 | 341A |
| 2 7-5-43 | | | |
| 3 5-10-44 | | | |
| 4 8-15-45 | | | |
| SYMBOL | | | |
| DRG. PERTAINS TO | | | |
| 75-14-341 | | | |
| DESIGNED BY A.E.R. | CHECKED BY E.H.F. | TRACER J.B. | ENGINEER M.T. |
| SUBMITTED BY | | | |
| EXAMINED BY | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | |
| ORDNANCE DEPT. U.S.A. | | | |

COAT END OF COUPLING WITH PETTMAN CEMENT, THEN PRESS TAIL ASSEMBLY INTO BODY TUBE BEFORE CEMENT SETS. DRILL 4 HOLES, .0890 IN. DIA, EQUALLY SPACED. PRESS SHEAR PIN, 75-14-350B, IN PLACE.

RESIZE THIS END OF TUBE, IF NECESSARY, TO OBTAIN A LIGHT PUSH FIT ON COUPLING. RESIZED END SHALL NOT PROTRUDE BEYOND BOURRELET.

75-2-316A (K) APPLY PRESSURE TO INSURE PROPER SEATING DURING PINNING OPERATION.



(F) GAP OF .01 MAX PERMITTED BETWEEN END OF BODY TUBE AND BOURRELET PROVIDED TUBE SHOULDERS AGAINST BOURRELET AT MIN OF ONE POINT IN EACH QUADRANT OF CIRCUMFERENCE.

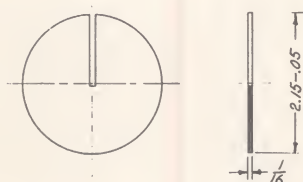
(G) THE CONCENTRICITY AND ALIGNMENT OF THE ASSEMBLY SHALL BE SUCH THAT WITH A SIMULATED FIN AND FUZE ATTACHED, THE ASSEMBLY WILL FREELY ENTER A CHAMBER GAGE 2.386 IN. DIAMETER AND 14 IN. LONG. SIMULATED FIN SHALL EQUAL MAXIMUM DIMENSIONS AND MAXIMUM ECCENTRICITY OF FIN ASSEMBLY, 75-2-285A. SIMULATED FUZE SHALL BE A 60 THREAD GAGE HAVING A SHOULDER DIAMETER OF 2.343 AND SHOULDER LENGTH OF .75. NOTE: THIS REQUIREMENT IS AN ALTERNATIVE FOR GAGING ECCENTRICITY OF TAIL ASSEMBLY, 75-2-316A, GA-2538A OR GA-2784A AND BODY TUBE ASSEMBLY, 75-2-316G.

(H) FOR SUBSTITUTE TAIL ASSEMBLIES, SEE GA-2538A OR GA-2784A.

(G) BODY ASSEMBLY 75-14-350A6

COAT ENTIRE EXTERIOR SURFACE, EXCEPT BOURRELET, WITH BLUE GRAY LACQUER ENAMEL, OR BLUE GRAY ENAMEL.

(H) BOURRELET MAY BE SPRAY PAINTED AT SAME TIME OTHER SURFACES ARE COATED, PROVIDED FILM THICKNESS DOES NOT EXCEED .0006. THERE SHALL BE NO BLISTERS OR DROPLETS OF PAINT ON BOURRELET OR AT JUNCTURE OF BOURRELET AND BODY TUBE. DO NOT RETOUCH BOURRELET.



DISC, SEPARATOR 75-14-350D3 CHIPBOARD

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

SUPERSEDES 75-14-350 WITHOUT CHANGE, NOV 15, 1948.

LIST OF PARTS

| LINE NO | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROXIMATE VOLUME (CUBIC INCHES) | REMARKS |
|---------|---------------------|---------------------------|------------|--------------|--------------------------------------|-------------|-------------|----------------------------------|-----------------------------------|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC NUMBER | | | |
| 1 | BODY ASSEMBLY | | 75-14-350A | | | | 50-54-7 | 40. | | |
| 2 | BODY TUBE ASSEMBLY | | 75-2-316G | | | | | 1.40 | | (A) |
| 3 | ILLUMINANT ASSEMBLY | | 78-2-272A | | | | | | | |
| 4 | PARACHUTE ASSEMBLY | | 78-2-274A | | | | | | | |
| 5 | TAIL ASSEMBLY | | 75-2-316A | | | | | 7.36 | | (B)(C) |
| 6 | | | | | | | | | | |
| 7 | ADAPTER | 1 | 75-2-316K | BAR | STEEL | (A) | QQ-S-671 | | | (A) |
| 8 | ADAPTER, FIN | 1 | 75-2-316B | BAR | STEEL | (A) | QQ-S-671 | | | |
| 9 | CONE | 1 | 75-2-316C | SHEET | STEEL | WD1010 | 57-136 | | | |
| 10 | | | | | | | | | | |
| 11 | DISC, SEPARATOR | 1 | 75-14-350D | SHEET | CHIPBOARD | | COMMERCIAL | | | |
| 12 | DISC, PARACHUTE | 1 | 75-2-316F | SHEET | CHIPBOARD | | COMMERCIAL | | | |
| 13 | DISC, COUPLING | 1 | 75-2-316E | STRIP | STEEL | WD1010 | 57-136 | | | (A) |
| 14 | | | | | | | | | | |
| 15 | PIN, SHEAR | 4 | 75-14-350B | WIRE | BRASS | B | QQ-W-321 | | | |
| 16 | SPACER, PARACHUTE | 2 | 75-2-316L | STRIP | STEEL | WD1010 | 57-136 | | | (A) |
| 17 | TUBE, BODY | 1 | 75-2-316H | TUBING | STEEL, TYPE I, III OR IV | WD1010/1035 | 57-180 | | | |
| 18 | | | | | LACQUER ENAMEL, BLUE GRAY | I | JAN-L-73 | | | (C) |
| 19 | | | | | PRIMER, SYNTHETIC, LACQUER-RESISTING | | JAN-P-72 | | | |
| 20 | | | | | SOLDER, SILVER | CLASS I | QQ-S-561 | | | |
| 21 | | | | | CEMENT, PETTMAN | | JAN-C-99 | | | |

(A) ALTERNATIVE MATERIAL: TUBING, STEEL, TYPE I, III OR IV, WD1010 TO 1035, COLD-DRAWN, SPEC 57-180

(B) FS1010 TO FS1035, FS1115, FS1120, FSX1344, OR FSX1315.

(C) ALTERNATIVE MATERIAL: BLUE GRAY ENAMEL, GRADE I, SPEC JAN-E-74

(D) SUBSTITUTE TAIL ASSEMBLY, GA-2784A, OR GA-2538A

(E) PROTECTIVE FINISH: TYPE I, CLASS TS, RS, OR RSC, SPEC 57-0-2.

(F) INSIDE OF TAIL ASSEMBLY, EXCEPT THREADS, MAY BE COATED WITH PRIMER, SYNTHETIC, LACQUER-RESISTING, IN LIEU OF PLATING.

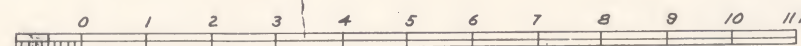
| LINE NO | LIST OF SPECIFICATIONS | SPEC NUMBER | REQUIRED BY |
|---------|---|-------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC FOR | 50-0-1 | DWG 75-14-350 |
| 2 | | | |
| 3 | CEMENT, PETTMAN | JAN-C-99 | DWG 75-14-350 |
| 4 | | | |
| 5 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DWG 75-14-350 |
| 6 | | | |
| 7 | FINISHES, PROTECTIVE, FOR IRON & STEEL PARTS | 57-0-2 | DWG 75-2-316 |
| 8 | | | |
| 9 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DWG 75-14-350 |
| 10 | | | |
| 11 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-136 |
| 12 | | | |
| 13 | PAINTS AND RELATED MATERIALS, GENERAL SPEC FOR | 3-1 | JAN-L-73 |
| 14 | PRIMER, SYNTHETIC, LACQUER-RESISTING | JAN-P-72 | DWG 75-14-350 |
| 15 | | | |
| 16 | ROUND, COMPLETE AND BODY ASSEMBLY, SHELL, ILLUM, M83A1 | 50-54-7 | DWG 75-14-350 |
| 17 | | | |
| 18 | SOLDER, SILVER | QQ-S-561 | DWG 75-2-316 |
| 19 | STEEL, CARBON AND ALLOY, BARS | QQ-S-671 | DWG 75-2-316 |
| 20 | STEEL, CARBON AND ALLOY, SHEET AND STRIPS | 57-136 | DWG 75-2-316 |
| 21 | | | |
| 22 | TUBING, MECHANICAL OR STRUCTURAL, STEEL, CARBON AND ALLOY, SEAMLESS | 57-180 | DWG 75-2-316 |
| 23 | | | |
| 24 | WIRE, BRASS | QQ-W-321 | DWG 75-14-350 |

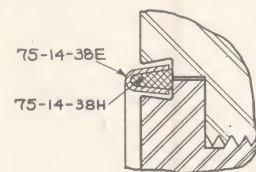
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HERE ON, SHALL NOT APPLY.

| LINE NO | LIST OF DRAWINGS | DRAWING NUMBER |
|---------|---------------------|----------------|
| 1 | BODY ASSEMBLY | 75-14-350 |
| 2 | ILLUMINANT ASSEMBLY | 78-2-272 |
| 3 | PARACHUTE ASSEMBLY | 78-2-274 |
| 4 | DETAILS | 75-2-316 |
| 5 | DETAILS | GA-2538 |
| 6 | DETAILS | GA-2784 |

SHELL, ILLUMINATING, 60MM, M83A1
BODY AND LOADING ASSEMBLY.

| | | | | |
|---|---------|----------|----------|------|
| APRIL 9, 1942 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 14 | 350 | |
| 5 8-15-45 | | | | |
| 6 11-15-48 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMAL: 1/10 | | | | |
| FRACTIONAL: 1/16 | | | | |
| ANGULAR: 1/2 | | | | |
| DRG. PERTAINS TO | | | | |
| 75-1-143 | CHECKER | TRACER | ENGINEER | |
| | ACJ | BER | QJ | |
| SUBMITTED: | | | | |
| EXAMINED: | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | |
| ORD. DEPT. U.S.A. | | | | |
| ORDNANCE DEPT. U.S.A. | | | | |



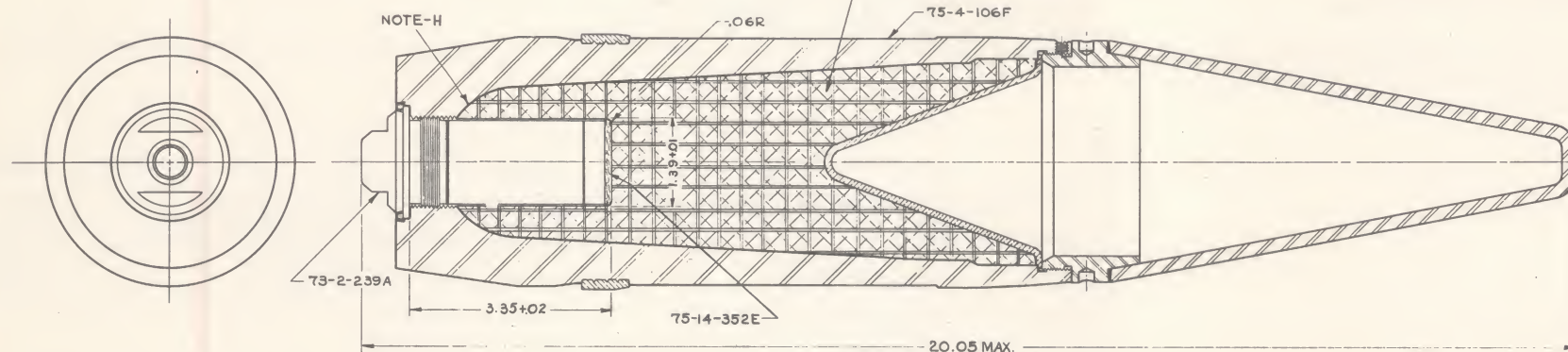


ENLARGED VIEW
BEFORE CALKING

| LIST OF PARTS | | | | | | | | | |
|---------------|-------------------------|---------------------------|------------|--------------|----------------------|------------|----------------------------------|---|---------|
| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECEMARK | MATERIAL | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WT OF PARTS STOCKED FOR ASSEMBLY | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | | | |
| 1 | SHELL, LOADING ASSEMBLY | | 75-14-352A | | | | | | |
| 2 | CHARGE | 1 | 75-14-352C | CAST | COMPOSITION B | I | JAN-C-401 | 3.08 | |
| 3 | CHECK, GAS | 1 | 75-14-38E | STRIP | COPPER SOFT | | QQ-C-501 | .01 | |
| 4 | DISC | 1 | 75-14-352E | ROLL | FELT, PRESSED | NO. 10 1/2 | 8-15 | | |
| 5 | FILLER | 1 | 75-14-38H | MOULDED | LEAD, SOFT | SOFT | COMMERCIAL | .02 | |
| 6 | | | | | | | | | |
| 7 | FUZE, B D M91 ASSEMBLY | 1 | 73-2-239A | | | | | 1.38 | |
| 8 | | | | | | | | | |
| 9 | METAL PARTS ASSEMBLY | 1 | 75-4-106F | | | | PX5-988 | 24.96 | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | |
| 14 | | | | | INK, STENCIL, YELLOW | | TT-I-558 | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |

a. SPEC JAN-C-401 APPLIES EXCEPT THAT EFFLUX VISCOSITY TO BE 7 ± 2 SECS. ADVISORY: OPTIMUM POURING TEMPERATURE $85 \pm 2^\circ\text{C}$.

CHARGE 75-14-352C6
APPROX 3 LBS, 1.0Z, CAST COMPOSITION B, GRADE I

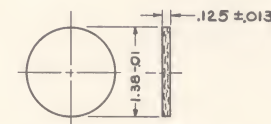
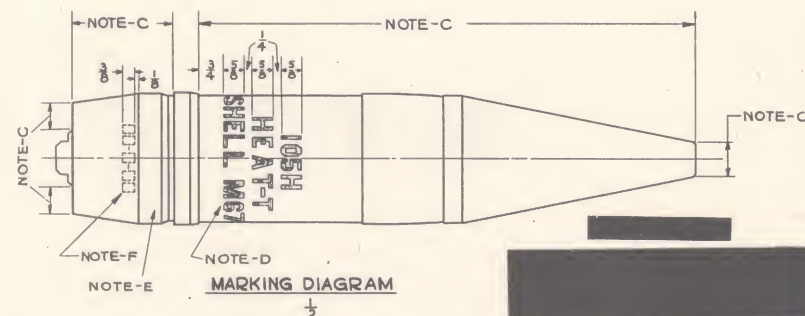


SHELL, LOADING ASSEMBLY 75-14-352 A 6

NOTES:-

C-RETOUCH THESE SURFACES WHERE PREVIOUS COATING IS DAMAGED, WITH ENAMEL, OLIVE DRAB. COMPLETE RECOATING OF THESE SURFACES OPTIONAL.
D-MARK WITH YELLOW STENCIL INK.
E-A SERIAL NUMBER OR PROCESS CONTROL MARKING MAY BE PLACED ON THE SHELL TO THE REAR OF THE ROTATING BAND, IN LETTERS AND FIGURES NOT OVER 1/4 INCH HIGH.
F-INSERT LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER), WHEN LOTTING IS REQUIRED.

H-EXPLOSIVE CHARGE CHIPPED OR BROKEN FROM THE SIDE WALL OF THE BOOSTER CAVITY, IN ONE OR MORE PLACES, TO A DEPTH OF NOT MORE THAN 0.5 INCHES, AND INCLUDING IN THE AGGREGATE A CIRCUMFERENCE OF NOT MORE THAN 180 DEGREES NEED NOT BE REPLACED.
I-BOURRELET, AFTER RECOATING SHALL PASS 4.132 RING GAGE.



DISC 75-14-352E4
FELT, PRESSED, NO. 10 1/2
DIAMETER DIMENSION CONTROLS
TOOL MANUFACTURE.

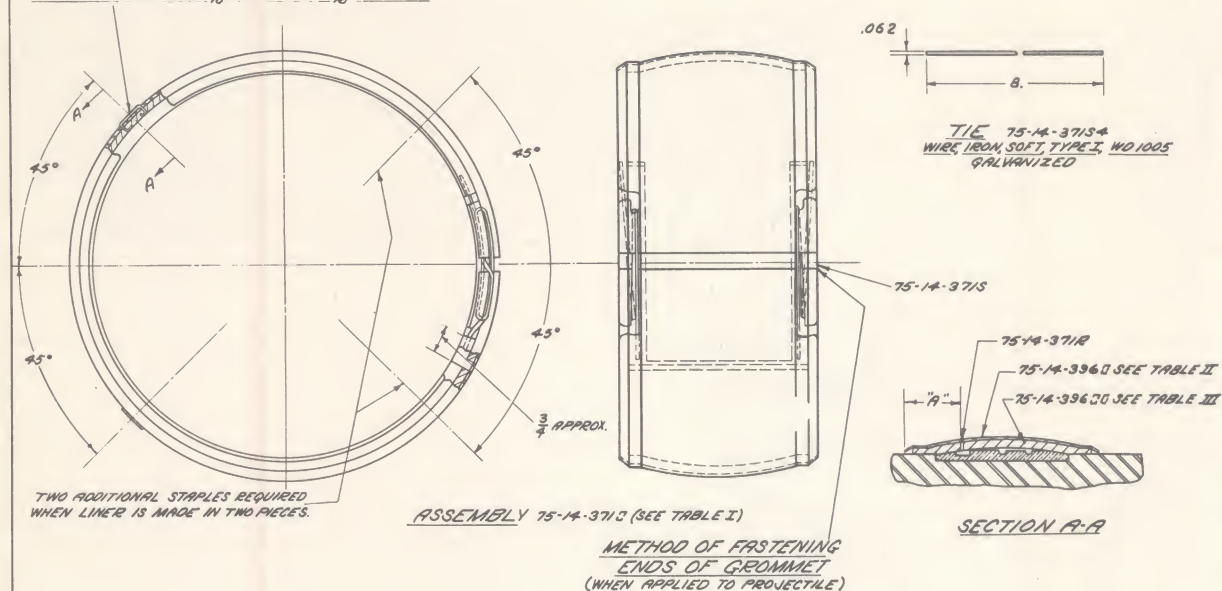
NOTICE: THIS DRAWING SHALL NOT BE USED FOR REPRODUCTION WITHOUT THE WRITTEN PERMISSION OF THE U.S. GOVERNMENT PRINTING OFFICE.

SUPERSEDES 75-14-352 WITH CHANGE
AUGUST 15, 1945

SHELL H E, A-T-T, 105MM, M67
LOADING ASSEMBLY, MARKING
DIAGRAM AND DETAILS

| MAY 4, 1942 | | | | CLASS | DIVISION | DRAWING | FILE |
|-------------|---------|--|--|---|----------|---------|------|
| REVISIONS | | | | 75 | 14 | 352 | |
| 3 | 8-15-45 | | | | | | |
| 4 | 5-12-49 | | | | | | |
| 5 | 4-14-50 | | | | | | |
| 6 | 7-19-50 | | | | | | |
| | | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| | | | | DECIMAL 1 | | | |
| | | | | FRACTIONAL 2 | | | |
| | | | | ANGULAR 2 | | | |
| | | | | DRG. PERTAINS TO | | | |
| | | | | DTP:MAN A.F.H. TRACER A.F.H. HEAD 105MM | | | |
| | | | | CHECKER L.H. SUBMITTED: [Signature] | | | |
| | | | | EXAMINED: [Signature] | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: [Signature] | | | |
| | | | | ORD. DEPT. U.S.A. | | | |
| | | | | D | | | |
| | | | | ORDNANCE DEPT., U.S.A. | | | |

STAPLE 75-14-371R1
 .051 GALVANIZED WIRE $\frac{7}{16}$ INCH CROWN X $\frac{5}{16}$ INCH LEGS.



ASSEMBLY - TABLE I

| LINE NO. | CALIBER | PIECE MARKS | | | | DIM. "A" | FOR PROJECTILE MODEL NUMBERS | REMARKS |
|----------|----------|-------------|---------------|------------|-------------|-----------------|---|---------|
| | | ASSEMBLY | WEIGHT POUNDS | HOUSING | LINER | | | |
| 1 | 4.5 INCH | 75-14-371A3 | .45 | 75-14-396A | 75-14-396AA | $\frac{15}{16}$ | M-65 | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | 6.1 INCH | 75-14-371B3 | .80 | 75-14-396B | 75-14-396BB | 1.0 | A.R.COM. XXXII | |
| 6 | 6.1 INCH | 75-14-371C3 | .67 | 75-14-396C | 75-14-396CC | $\frac{3}{4}$ | T.P. II, MK. IIAI | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | 155 MM. | 75-14-371D3 | .69 | 75-14-396D | 75-14-396DD | $\frac{7}{8}$ | M101, M101B1, M104, M104B1, M112, M112B1, M112B2, M117, T23 | |
| 10 | 155 MM. | 75-14-371E3 | .36 | 75-14-396E | 75-14-396EE | $\frac{3}{4}$ | M102, M105, M115, M115B1 | |
| 11 | 155 MM. | 75-14-371F3 | .43 | 75-14-396F | 75-14-396FF | $\frac{3}{4}$ | M107, M110, M116, M118 | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | 8 INCH | 75-14-371G3 | 1.31 | 75-14-396G | 75-14-396GG | $\frac{1}{2}$ | MK. II, M103, M103 | |
| 18 | 8 INCH | 75-14-371H3 | 1.07 | 75-14-396H | 75-14-396HH | $\frac{3}{4}$ | T.P. II | |
| 19 | 8 INCH | 75-14-371K3 | .91 | 75-14-396K | 75-14-396KK | $\frac{1}{2}$ | M106, MK. I, MK. IAI | |
| 20 | 240 MM. | 75-14-371L4 | 1.44 | 75-14-396L | 75-14-396LL | $\frac{1}{2}$ | MK. III, RI | |
| 21 | 240 MM. | 75-14-371M4 | 1.76 | 75-14-396M | 75-14-396MM | $\frac{1}{2}$ | M114 | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |

LIST OF PARTS

| LINE NO. | NAME OF PARTS | NUMBER REQD PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROXIMATE WT. OF ARM STOLE PER UNIT ASSEMBLED | REMARKS |
|----------|---------------|---------------------------|------------|--------------|--------------------------------------|--------|--------------|----------------------------------|---|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | |
| 1 | ASSEMBLY | | SEE TABLE | | | | PX5-1177 | SEE TABLE I | | |
| 2 | | | | | | | | | | |
| 3 | HOUSING | 1 | SEE TABLE | SHEET | STEEL, HOT ROLLED | WD1010 | 57-136 | SEE TABLE I | | (d) |
| 4 | | | | | | | | | | |
| 5 | LINER | 1 | SEE TABLE | | FIBER | | COMMERCIAL | SEE TABLE I | | (f) |
| 6 | | | | | | | | | | |
| 7 | STAPLES | 2 | 75-14-371R | WIRE | STEEL, GALVANIZED | | COMMERCIAL | | | (a) |
| 8 | TIE | 2 | 75-14-371S | WIRE | IRON, SOFT, TYPE I, GALVANIZED | WD1005 | 48-5 | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | ENAMEL OLIVE DRAB | II | JAN-E-74 | | | (e) |
| 11 | | | | | | | | | | |
| 12 | | | | | PRIMER, SYNTHETIC, LACQUER-RESISTING | | JAN-P-72 | | | |
| 13 | | | | | | | | | | |

(a) WHEN LINER IS MADE IN 2 PIECES, 4 STAPLES REQUIRED

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|---------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMA, GENERAL SPEC. FOR | 50-0-1 | DRG 75-14-371 |
| 2 | PRINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-E-74 |
| 3 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG 75-14-396 |
| 4 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-135 |
| 5 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DRG 75-14-396 |
| 6 | STEEL, CARBON AND ALLOY, SHEETS AND STRIPS | 57-136 | DRG 75-14-396 |
| 7 | WIRE, SOFT IRON AND STEEL, BARE AND COATED | 48-5 | DRG 75-14-371 |
| 8 | | | |
| 9 | PRIMER, SYNTHETIC, LACQUER-RESISTING | JAN-P-72 | DRG 75-14-396 |
| 10 | GROMMETS | PX5-1177 | DRG 75-14-396 |
| 11 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

WITH NEW TRACING 75-14-396, -
 SUPERSEDES OLD TRACING 75-14-371
 UNDER REVISION DATE 1-23-43.

GROMMETS, FOR 4.5 IN, 6 IN, 155 MM, 8 IN, AND 240 MM, PROJECTILES, ASSEMBLY, LIST OF PARTS AND LIST OF SPECS.

NOVEMBER 21, 1942

| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
|-----------|-------|----------|---------|------|
| 1 1-23-43 | 75 | 14 | 371 | |
| 2 6-1-43 | | | | |
| 3 8-31-43 | | | | |
| 4 9-24-43 | | | | |
| 5 8-15-45 | | | | |
| 6 4-29-48 | | | | |

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
 DECIMAL: ±
 FRACTIONAL: ±
 ANGULAR: ±

DRG. PERTAINS TO 75-14-396

SUBMITTED: *Amgallagher*
 MAJORS DEPT. U.S.A.

EXAMINED: *V.L. Woodbury*
 LT COL., ORD. DEPT. U.S.A.

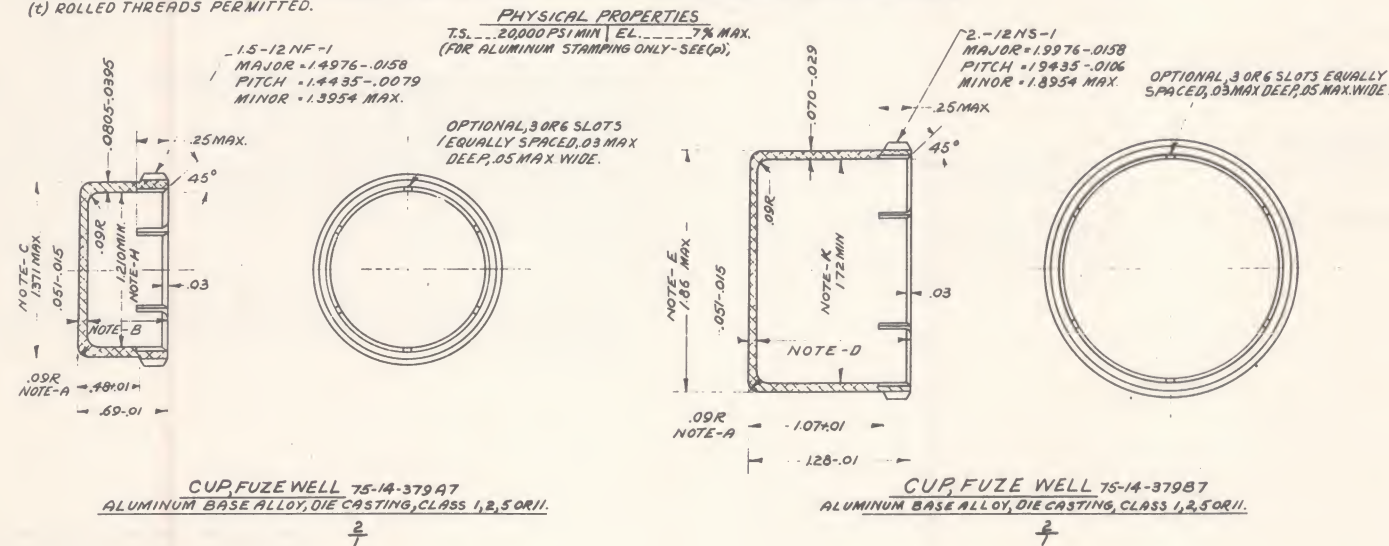
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: *Spittling*
 COL., ORD. DEPT. U.S.A.

ORDNANCE DEPT., U.S.A.

SCALE 4

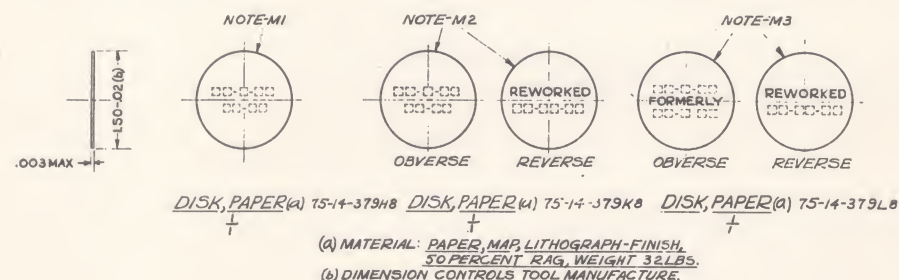
| LIST OF PARTS | | | | | | | | | |
|---------------|----------------|--------------------------|------------|--------------|-----------------------------------|-------|-------------|----------------------------------|-----------|
| LINE NO | NAME OF PART | NUMBER REQ PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | REMARKS |
| 1 | DISK, PAPER | | 75-14-379H | SHEET | PAPER, MAP | | 19-48 | | (P) |
| 2 | DISK, PAPER | | 75-14-379K | SHEET | PAPER, MAP | | 19-48 | | (P) |
| 3 | CUP, CLOSING | | 75-14-379G | SHEET | GILDING METAL | | 57-171-2 | 5 GRAIN | |
| 4 | CUP, FUZE WELL | | 75-14-379A | CAST | ALUMINUM, BASE-ALLOY, DIE CASTING | | 88-A-591 | .02 | (P)(K)(C) |
| 5 | CUP, FUZE WELL | | 75-14-379B | CAST | ALUMINUM, BASE-ALLOY, DIE CASTING | | 88-A-591 | .06 | (P)(K)(C) |
| 6 | | | | | | | | | |
| 7 | DISK, PAPER | | 75-14-379L | SHEET | PAPER, MAP | | 19-48 | | (P) |
| 8 | | | | | PRINTERS INK, BLACK | | COMMERCIAL | | |

(K)-ALTERNATIVE: ALUMINUM-BASE-ALLOY; PERMANENT-MOLD-CASTING, SPEC. 88-A-596, EXCEPT COMPOSITION IN ACCORDANCE WITH CLASS 1, 2, 5 OR 11, SPEC. 88-A-591 OR CLASS 4, SPEC. 88-A-596(S)
(P)-ALTERNATIVE: ALUMINUM PLATES AND SHEETS, SPEC. 88-A-561, MANUFACTURE BY STAMPING. PHYSICAL PROPERTIES TO BE DETERMINED ON SPECIMENS REMOVED FROM BOTTOM & SIDES OF 0.25% OF EACH LOT OF COMPLETED ITEMS(S)
(R)-ALTERNATIVE: PAPER, BOND; TYPE C, 75 PERCENT, WHITE, WEIGHT 26 TO 32 POUNDS, SPEC. UU-P-121(S)
(S)-ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.
(T) ROLLED THREADS PERMITTED.



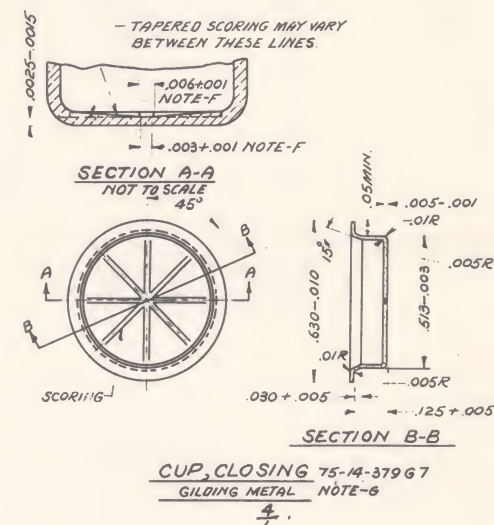
NOTES:-
A - .036 MIN. PERMISSIBLE WALL THICKNESS MEASURED ALONG RADIUS.
B - MINIMUM DIMENSION AT CENTER, .629 TO ALLOW FOR CONVEXITY OF BOTTOM.
C - ECCENTRICITY BETWEEN THREADS AND 1.210 DIA., .010 MAX (0.020 DIAL INDICATOR READING).
D - MINIMUM DIMENSION AT CENTER, 1.219 TO ALLOW FOR CONVEXITY OF BOTTOM.
E - ECCENTRICITY BETWEEN THREADS AND 1.86 DIA. TO BE IN ACCORDANCE WITH ORDNANCE DEPT. GAGES.
F - DIMENSIONS CONTROL TOOL MANUFACTURE.
G - THIS CUP MUST NOT BE PUNCTURED ON ANY PART OF ITS SURFACE.
H - ECCENTRICITY BETWEEN THREADS AND 1.210 DIA. TO BE IN ACCORDANCE TO ORDNANCE DEPT. GAGES.
K - ECCENTRICITY BETWEEN THREADS AND 1.210 DIA. TO BE IN ACCORDANCE TO ORDNANCE DEPT. GAGES.

L - ALTERNATIVE: 1.00-.002 INCH SQUARE.
M - STAMP OR PRINT DISK WITH BLACK PRINTERS INK IN LETTERS AND FIGURES 1/16 MIN HEIGHT AS FOLLOWS:
1-NEW LOADING; LOADED SHELL LOT NUMBER, MONTH AND YEAR COMPLETED.
2-SHELL, REWORKED LOTS: LOADED SHELL LOT NUMBER, ON REVERSE SIDE, REWORKED, PLANT INITIALS, MONTH AND YEAR COMPLETED.
3-SHELL, REWORKED AND GROUPED INTO HYBRID LOTS: THE NEW LOT NUMBER, FORMERLY, ORIGINAL LOT NUMBER (IF KNOWN), ON REVERSE SIDE, REWORKED, PLANT INITIALS, MONTH AND YEAR COMPLETED.



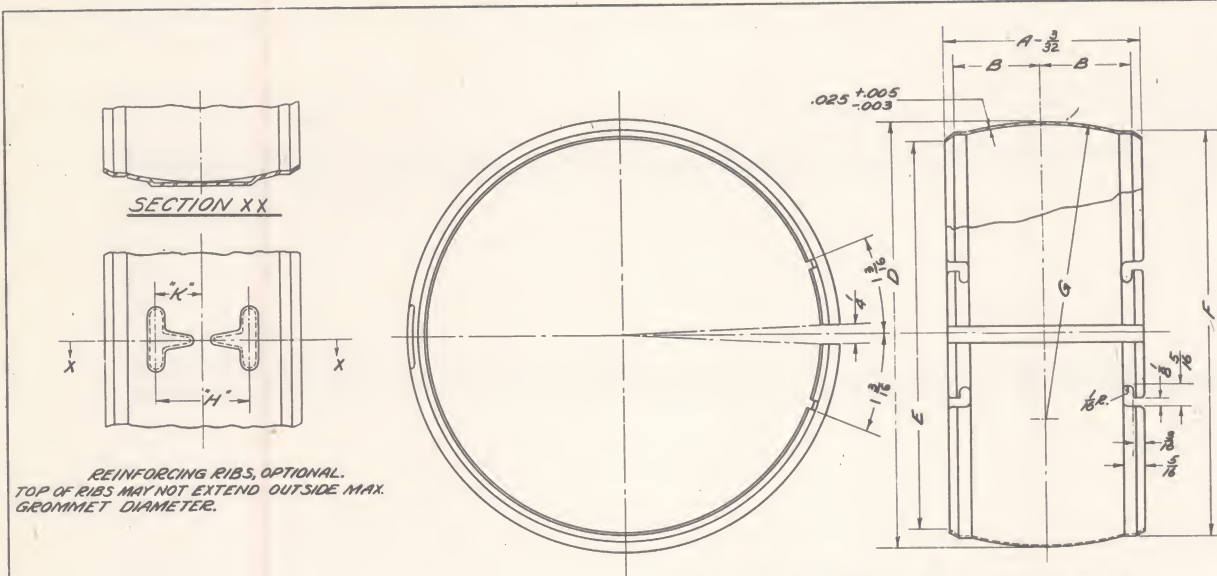
| LINE NO | LIST OF SPECIFICATIONS | SPEC NUMBER | REQUIRED BY |
|---------|---|-------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPECIFICATIONS FOR | 50-0-1 | DRG. 75-14-379 |
| 2 | ALUMINUM-BASE-ALLOY; DIE CASTING | 88-A-591 | DRG. 75-14-379 |
| 3 | ALUMINUM-BASE-ALLOY; PERMANENT-MOLD-CASTINGS | 88-A-596 | DRG. 75-14-379 |
| 4 | ALUMINUM; PLATES AND SHEETS | 88-A-561 | DRG. 75-14-379 |
| 5 | GILDING METAL (95/5 BRASS); SHEETS AND STRIPS | JAN-6-439 | DRG. 75-14-379 |
| 6 | METALS, GENERAL SPECIFICATIONS FOR INSPECTION OF | 88-M-151 | JAN-6-439 |
| 7 | PAPER, MAP, LITHOGRAPH-FINISH, 50% RAG | 19-48 | DRG. 75-14-379 |
| 8 | PAPER; BOND, WHITE AND COLORED | UU-P-121 | DRG. 75-14-379 |
| 9 | FEDERAL GENERAL SPECIFICATIONS FOR PAPER | UU-P-31 | DRG. 75-14-379 |
| 10 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



SUPERSEDES 75-14-379 WITH
CHANGE AUGUST 15, 1945

| LOADING ACCESSORIES FOR PROJECTILES DETAILS | | | |
|---|---------|--------|----------|
| JANUARY 16, 1943 | | CLASS | DIVISION |
| REVISIONS | | 75 | 14 379 |
| 7 | 8-15-45 | | |
| 8 | 10-1-45 | | |
| 9 | 8-11-49 | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL 2 | | | |
| FRACTIONAL 1 | | | |
| ANGULAR 1 | | | |
| DRG. PERTAINS TO | | C.W.F. | C.W.F. |
| CHECKER | | C.W.F. | C.W.F. |
| SUBMITTED | | C.W.F. | C.W.F. |
| EXAMINED | | C.W.F. | C.W.F. |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | C.W.F. | C.W.F. |
| C.S. Reed | | C.W.F. | C.W.F. |
| COL., ORDN. DEPT. U.S.A. | | C.W.F. | C.W.F. |
| ORDNANCE DEPT. U.S.A. | | C.W.F. | C.W.F. |



REINFORCING RIBS, OPTIONAL.
TOP OF RIBS MAY NOT EXTEND OUTSIDE MAX.
GROMMET DIAMETER.

HOUSING, LINER 75-14-396 [3] SEE TABLE II
STEEL, SHEET, WD1010, HOT ROLLED, (ANNEALED AND PICKLED).
ALTERNATIVE: STEEL, STRIP, COLD ROLLED, WD1010,
ANNEALED AND PICKLED
APPLY FULL PRIMER COAT WITH LACQUER RESISTING SYNTHETIC PRIMER.
RECOAT ALL SURFACES WITH ENAMEL OR LACQUER ENAMEL, OLIVE DRAB
REMOVE ALL BURRS.

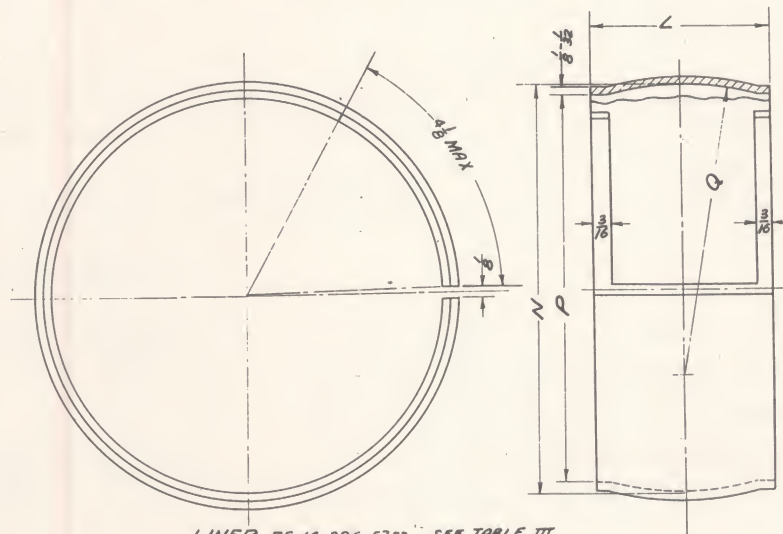
HOUSING, TABLE II

| LINE NO. | PIECE-MARK | DIMENSIONS | | | | | | | | APPROX. WT. LBS. | REMARKS |
|----------|-------------|------------|-------|--------|-------|-------|-------|-------|-------|------------------|---------|
| | | A | B | D | E | F | G | H | K | | |
| 1 | 75-14-396A3 | 2 1/8 | 1 3/8 | 5 1/2 | 4 1/8 | 4 1/8 | 3 1/8 | 1 | 1/2 | .30 | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | 75-14-396B3 | 3 1/8 | 1 3/8 | 6 1/2 | 6 1/8 | 6 1/8 | 5 1/8 | 1 1/8 | 3/8 | .53 | |
| 6 | 75-14-396C3 | 2 1/8 | 1 1/8 | 6 1/8 | 6 1/8 | 6 1/8 | 3 1/8 | 1 1/8 | 3/8 | .44 | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | 75-14-396D3 | 3 1/8 | 1 3/8 | 6 1/8 | 6 1/8 | 6 1/8 | 5 3/8 | 1 1/8 | 3/8 | .46 | |
| 10 | 75-14-396E3 | 1 1/8 | 1 1/8 | 6 1/8 | 6 1/8 | 6 1/8 | 1 3/8 | 1 1/8 | 3/8 | .25 | |
| 11 | 75-14-396F3 | 2 1/8 | 1 1/8 | 6 1/8 | 6 1/8 | 6 1/8 | 1 1/8 | 1 1/8 | 3/8 | .33 | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | 75-14-396G3 | 4 1/8 | 1 3/8 | 8 1/8 | 8 1/8 | 8 1/8 | 5 1/8 | 2 1/8 | 1 1/8 | .86 | |
| 18 | 75-14-396H3 | 3 1/8 | 1 3/8 | 8 1/8 | 8 1/8 | 8 1/8 | 4 1/8 | 2 1/8 | 1 1/8 | .70 | |
| 19 | 75-14-396K3 | 3 1/8 | 1 3/8 | 8 1/8 | 8 1/8 | 8 1/8 | 3 1/8 | 1 1/8 | 3/8 | .60 | |
| 20 | 75-14-396L3 | 3 1/8 | 1 1/8 | 10 1/8 | 9 1/8 | 9 1/8 | 3 1/8 | 1 1/8 | 3/8 | 1.06 | (a) |
| 21 | 75-14-396M3 | 3 1/8 | 1 1/8 | 10 1/8 | 9 1/8 | 9 1/8 | 2 1/8 | 2 1/8 | 1 1/8 | 1.29 | (a) |
| 22 | | | | | | | | | | | |
| 23 | | | | | | | | | | | |
| 24 | | | | | | | | | | | |
| 25 | | | | | | | | | | | |

(a) HOUSING TO BE MADE FROM .0359 (NO. 20 U.S. GAUGE) STEEL

LINER, TABLE III

| LINE NO. | PIECE-MARK | DIMENSIONS | | | | | APPROX. WT. LBS. | REMARKS |
|----------|--------------|------------|--------|------|-------|--|------------------|---------|
| | | L | N | P | Q | | | |
| 1 | 75-14-396AAS | 2 1/8 | 4 1/8 | 4.49 | 3 1/8 | | .15 | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | 75-14-396BBS | 3 1/8 | 6 1/8 | 5.98 | 5 1/8 | | .27 | |
| 6 | 75-14-396CCS | 2 1/8 | 6 1/8 | 5.97 | 3 1/8 | | .23 | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | 75-14-396DDS | 2 1/8 | 6 1/8 | 6.07 | 4 1/8 | | .23 | |
| 10 | 75-14-396EES | 1 1/8 | 6 1/8 | 6.07 | 1 | | .11 | |
| 11 | 75-14-396FFS | 1 1/8 | 6 1/8 | 6.07 | 1 1/8 | | .16 | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | 75-14-396GGS | 3 1/8 | 8 1/8 | 7.99 | 5 1/8 | | .45 | |
| 18 | 75-14-396HHS | 3 1/8 | 8 1/8 | 7.94 | 4 1/8 | | .37 | |
| 19 | 75-14-396KKS | 2 1/8 | 8 1/8 | 7.98 | 3 1/8 | | .31 | |
| 20 | 75-14-396LLS | 2 1/8 | 9 1/8 | 9.39 | 3 1/8 | | .36 | |
| 21 | 75-14-396MMS | 3 1/8 | 10 1/8 | 9.39 | 2 1/8 | | .45 | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | | | | | | |



LINER 75-14-396 [3] SEE TABLE III
FIBER

LINER MAY BE MADE IN TWO HALVES

WITH NEW TRACING 75-14-371-
SUPERSEDES OLD TRACING 75-14-371
UNDER REVISION DATE 1-23-43.

GROMMETS, FOR 4.5 IN., 6 IN., 155 MM.
8 IN. AND 240 MM. PROJECTILES.
DETAILS.

JANUARY 23, 1943

| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
|-----------|-------|----------|---------|------|
| 1 6-1-43 | 75 | 14 | 396 | |
| 2 8-31-43 | | | | |
| 3 4-24-44 | | | | |
| 4 8-15-45 | | | | |
| 5 4-29-48 | | | | |

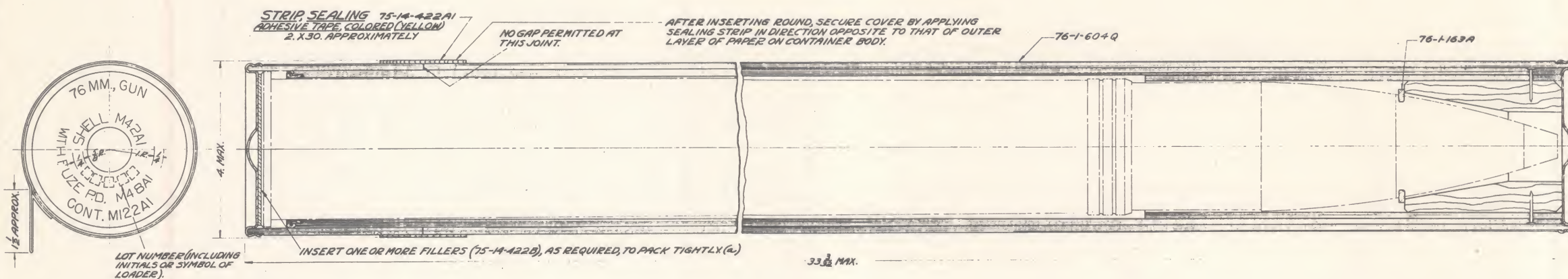
TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED
DECIMAL 2
FRACTIONAL 1
ANGULAR 2

DRG. PERTAINS TO
75-14-371

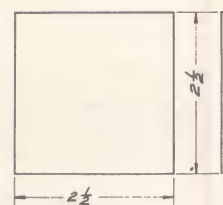
SUBMITTED:
Amgalla
EXAMINED:
Dr. W. W. W. W.
APPROVED BY ORDER OF THE CHIEF OF
ORDNANCE:
COL., ORD. DEPT. U. S. A.

ORDNANCE DEPT., U. S. A.

SCALE 1/2



MARK BOTH ENDS AS SHOWN, USING WHITE MARKING INK.



FILLER 75-14-422B
NO. 35 CHIPBOARD, PASTED OR PLAIN,
.06 THICK, COMMERCIAL.

76 MM. GUN, M1 & M1A1
SHELL, M42A1 COMPLETE ROUND

MARKING OF SEALING STRIP

MARK WITH LETTERS AND FIGURES NOT LESS THAN 1/4 HIGH, USING BLACK MARKING INK EITHER BEFORE OR AFTER APPLICATION OF THE SEALING STRIP MARKING TO BE VISIBLE WHEN STRIP IS APPLIED TO FIBER CONTAINER.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE WEIGHT (POUNDS) | REMARKS |
|----------|---------------|---------------------------|------------|--------------|----------------------------|-------|--------------|-----------------------------|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | |
| 1 | PACKING STOP | 1 | 76-1-163A | | | | | .15 | |
| 2 | STRIP SEALING | 1 | 75-14-422A | STRIP | ADHESIVE TAPE, YELLOW | | 50-11-81 | .03 | |
| 3 | FILLER | (a) | 75-14-422B | SHEET | CHIPBOARD, PASTED OR PLAIN | | COMMERCIAL | .02 | |
| 4 | | | | | INK, MARKING, BLACK | | 36-2 | | |
| 5 | | | | | INK, MARKING, WHITE | | 36-2 | | |

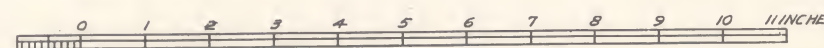
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---------------------|----------------|
| 1 | PACKING STOP | 76-1-163 |
| 2 | PACKING AND MARKING | 75-14-422 |
| 3 | | |
| 4 | | |

PACKING AND MARKING APPLIES TO THE FOLLOWING ROUND
FOR 76 MM. GUN M1 & M1A1
ROUND, COMPLETE, SHELL, H.E., M42A1, WITH M48A1 RD. FUZE.

FOR PACKING AND MARKING OF BUNDLE SEE DRG. 20-4-349
FOR PACKING AND MARKING OF PACKING BOX SEE DRG. 20-4-388X

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-422 |
| 2 | | | |
| 3 | INK, MARKING (FOR MARKING AMMUNITION) | 36-2 | DRG. 75-14-422 |
| 4 | | | |
| 5 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | 50-11-81 |
| 6 | | | |
| 7 | TAPE, ADHESIVE, COLORED & WHITE (FOR SEALING FIBER | 50-11-81 | DRG. 75-14-422 |
| 8 | CONTAINERS | | |
| 9 | | | |
| 10 | | | |

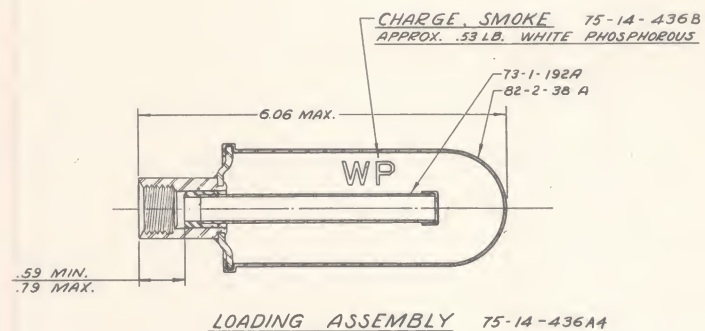
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



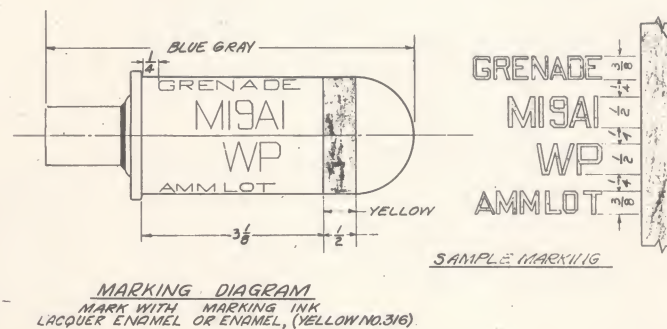
PACKING AND MARKING OF CONTAINER, FIBER, 76 MM, M122A1

| | | | | | |
|--|--|--------------------------|----------|----------|------|
| JULY 10, 1943 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 422 | |
| 1 8-15-43 | | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL 2 | | | | | |
| FRACTIONAL 2 | | | | | |
| ANGULAR 2 | | | | | |
| DRG. PERTAINS TO | | CHECKER | TRACER | ENGINEER | |
| | | M.J. | N.R.L. | R.L. | |
| SUBMITTED: | | C.M. Gallagher | | | |
| | | CAPT., ORD. DEPT. U.S.A. | | | |
| EXAMINED: | | R.L. Brennan | | | |
| | | CAPT., ORD. DEPT. U.S.A. | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | S.P. Strubling | | | |
| | | COL., ORD. DEPT. U.S.A. | | | |
| D | | ORDNANCE DEPT., U.S.A. | | | |

SUPERSEDED BY 76-1-1127 WITH CHANGE SEPTEMBER 12, 1949.



- NOTES:-
 A- LUTE BURSTER CASING BUSHING WITH ENGINE OIL BEFORE ASSEMBLY
 D- ALLOWABLE ECCENTRICITY BETWEEN BODY ADAPTER THREADS (.75-16NF-1) AND INSIDE DIAMETER OF BURSTER CASING (.367) .025
 E- COAT ENTIRE EXTERIOR SURFACE WITH BLUE GRAY LACQUER ENAMEL OR ENAMEL.



LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD. PER COMPONENT | PIECE MARK | MATERIAL | | | | APPROX. UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF FINISHED ASSEMBLIES | REMARKS |
|----------|-------------------------|----------------------------|------------|--------------|---------------------------|--------|----------------------|------------------------------|--|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPECIFICATION NUMBER | | | |
| 1 | LOADING ASSEMBLY | | 75-14-436A | | | | | 1.04 | | (c) |
| 2 | METAL PARTS ASSEMBLY | 1 | 82-2-38A | | | | | | | |
| 3 | BURSTER CASING ASSEMBLY | 1 | 73-1-192A | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | CHARGE, SMOKE | 1 | 75-14-436B | | WHITE PHOSPHORUS | | 4-503-305 | .53 | | (c) |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | LACQUER ENAMEL, BLUE GRAY | I | 3-162 | | | (a) |
| 9 | | | | | INK, MARKING, YELLOW | | 36-2 | | | (b) (d) |
| 10 | | | | | OIL, ENGINE | SAE 10 | 2-104 | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |

- (a) ALTERNATIVE MATERIAL - BLUE GRAY ENAMEL, GRADE I, SPEC. 3-67
 (b) ALTERNATIVE MATERIAL - YELLOW ENAMEL, NO. 316, GRADE I, SPEC. 3-67 OR YELLOW LACQUER ENAMEL, NO. 316, GRADE I, SPEC. 3-162
 (c) SPECIFICATION FURNISHED BY CHEMICAL WARFARE SERVICE.
 (d) COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1

| LINE NO. | LIST OF SPECIFICATIONS | SPECIFICATION NUMBER * | REQUIRED BY |
|----------|---|------------------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-436 |
| 2 | INK, MARKING | 36-2 | DRG. 75-14-436 |
| 3 | LACQUER ENAMEL LUSTRELESS | 3-162 | DRG. 75-14-436 |
| 4 | OIL, ENGINE | 2-104 | DRG. 75-14-436 |
| 5 | PAINTS AND RELATED MATERIAL, GENERAL SPEC. FOR | 3-1 | 3-162 |
| 6 | PHOSPHORUS, WHITE | 4-503-305 | DRG. 75-14-436 |
| 7 | ENAMEL, LUSTRELESS, QUICK DRYING | 3-67 | DRG. 75-14-436 |
| 8 | | | |
| 9 | | | |
| 10 | | | |

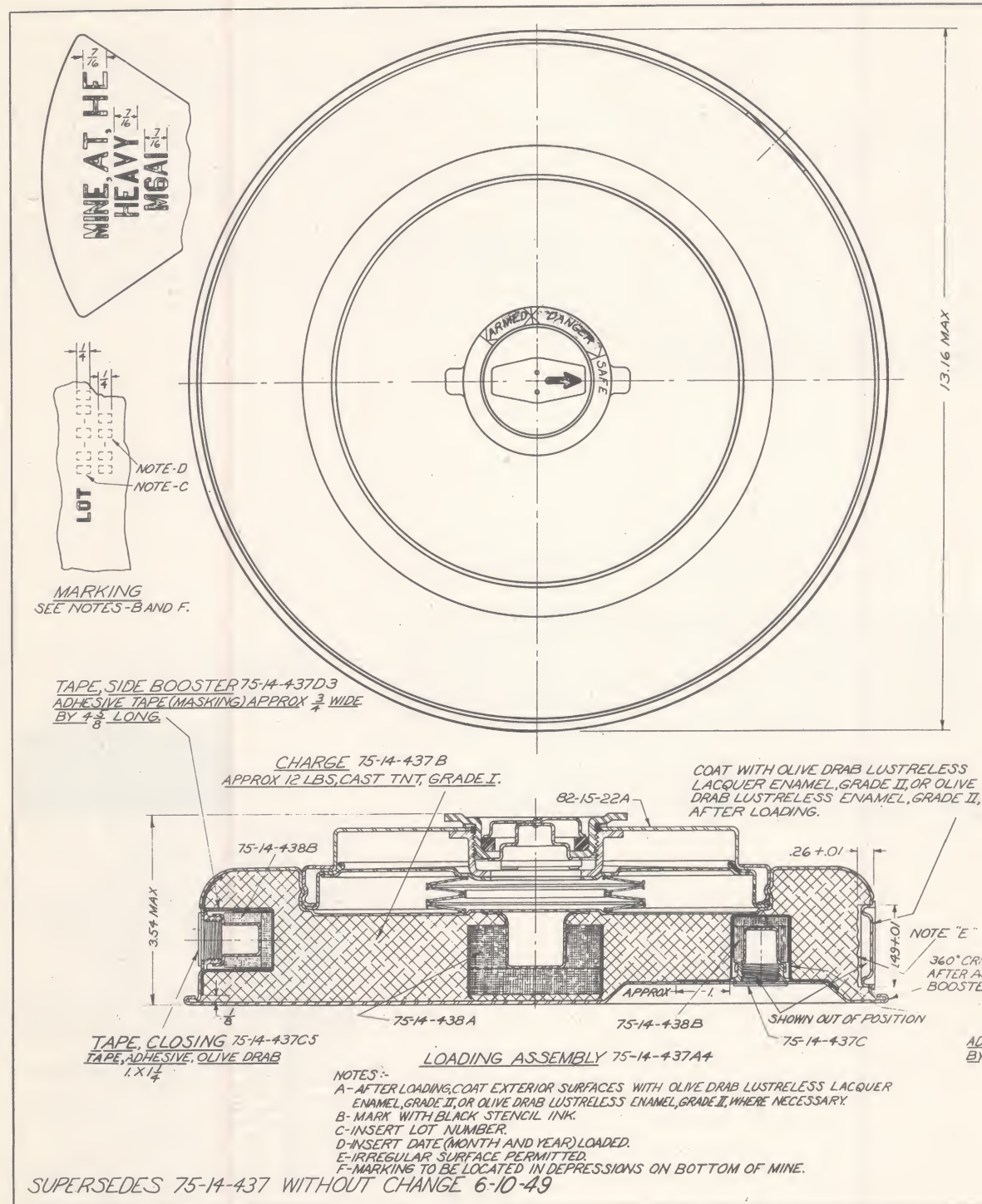
- * THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

CLASSIFICATION CHANGED TO UNCLASSIFIED
 BY AUTHORITY OF OCM NO. 23532
 BY *M. J. Thompson*

GRENADE, RIFLE, SMOKE WP, M19A1
 LOADING ASSEMBLY
 AND MARKING DIAGRAM.

| | | | | | |
|---|-------------|------------------------|----------|---------|------|
| FEBRUARY 5, 1944 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 436 | |
| 1 | APRIL 10-14 | | | | |
| 2 | 10-25-44 | | | | |
| 3 | 4-6-45 | | | | |
| 4 | 8-15-45 | | | | |
| 5 | 7-8-48 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL ± | | | | | |
| FRACTIONAL ± | | | | | |
| ANGULAR ± | | | | | |
| DWT. MAN. C. K. | | | | | |
| CHECKER B. B. | | | | | |
| SUBMITTED: | | | | | |
| H. J. Danner | | | | | |
| CHIEF ENGINEER ORD. DEPT. U.S.A. | | | | | |
| EXAMINED: | | | | | |
| W. K. Holler | | | | | |
| COL., ORD. DEPT. U.S.A. | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | | |
| J. A. Luke | | | | | |
| COL., ORD. DEPT. U.S.A. | | | | | |
| D | | ORDNANCE DEPT., U.S.A. | | | |

OBSOLESCE
 SCALE: 1/4"



| LIST OF PARTS | | | | | | | | | | |
|---------------|---------------------------------|---------------------------|------------|--------------|--|------------|-------------|-----------------------------|------------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC NUMBER | APPROXIMATE WEIGHT (POUNDS) | APPROX GROSS WEIGHT (POUNDS) | REMARKS |
| 1 | LOADING ASSEMBLY | | 75-14-437A | | | | 50-86-4 | 20 | | |
| 2 | ACTIVATOR BOOSTER ASSEMBLY | | 75-14-438B | | | | | | | |
| 3 | FUZE BOOSTER ASSEMBLY | | 75-14-438A | | | | | | | |
| 4 | METAL PARTS ASSEMBLY | | 82-15-22A | | | | 50-86-5 | 7.63 | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | TAPE, BOTTOM BOOSTER | 1 | 75-14-437E | ROLL | TAPE, ADHESIVE (MASKING) | | COMMERCIAL | | | |
| 8 | TAPE, SIDE BOOSTER | 1 | 75-14-437D | ROLL | TAPE, ADHESIVE (MASKING) | | COMMERCIAL | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | CHARGE | 1 | 75-14-437B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 12. | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | PELLET, RING, ACTIVATOR | 2 | 75-14-438E | | TETRYL | I, CLASS a | JAN-T-339 | .02 | | |
| 17 | PELLET, RING, FUZE | 1 | 75-14-438C | | TETRYL | I, CLASS a | JAN-T-339 | .17 | | |
| 18 | PELLET, SOLID, ACTIVATOR | 2 | 75-14-438F | | TETRYL | I, CLASS a | JAN-T-339 | .01 | | |
| 19 | PELLET, SOLID, FUZE | 1 | 75-14-438D | | TETRYL | I, CLASS a | JAN-T-339 | .12 | | |
| 20 | TAPE, CLOSING | 2 | 75-14-437C | ROLL | TAPE, ADHESIVE, OLIVE DRAB | A, TYPE I | JAN-P-127 | | | |
| 21 | TAPE, FUZE BOOSTER BINDING | 1 | 75-14-438G | ROLL | TAPE, ADHESIVE, (MASKING) | | COMMERCIAL | | | |
| 22 | TAPE, ACTIVATOR BOOSTER BINDING | 2 | 75-14-438H | ROLL | TAPE, ADHESIVE, (MASKING) | | COMMERCIAL | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | GRAPHITE | II | JAN-6-155 | | | (c) |
| 25 | | | | | INK, STENCIL, BLACK | | TT-I-558 | | | |
| 26 | | | | | LACQUER ENAMEL, LUSTRELESS, OLIVE DRAB | II | JAN-L-73 | | | (d) |
| 27 | | | | | | | | | | |

(b) ALTERNATIVE MATERIAL - OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, SPEC JAN-E-74

(c) ALTERNATIVE MATERIAL - BARIUM STEARATE, SPEC JAN-B-366

| LINE NO. | LIST OF SPECIFICATIONS | SPEC NUMBER | REQUIRED BY |
|----------|---|-------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM; GENERAL SPEC FOR | 50-O-1 | DWG 75-14-437 |
| 2 | ENAMEL LUSTRELESS, QUICK-DRYING | JAN-E-74 | DWG 75-14-437 |
| 3 | | | |
| 4 | BARIUM STEARATE | JAN-B-366 | DWG 75-14-438 |
| 5 | | | |
| 6 | GRAPHITE (FOR USE IN AMMUNITION) | JAN-6-155 | DWG 75-14-438 |
| 7 | MINE, AT, HE, HEAVY, M6AI, METAL PARTS FOR | 50-86-5 | DWG 75-14-437 |
| 8 | INK, STENCIL | TT-I-558 | DWG 75-14-437 |
| 9 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DWG 75-14-437 |
| 10 | MINE, AT, HE, HEAVY, M6AI, LOADING, ASSEMBLING, AND PACKING | 50-86-4 | DWG 75-14-437 |
| 11 | PAINTS AND RELATED MATERIALS; GENERAL SPEC FOR | 3-1 | JAN-L-73 |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | TAPE, ADHESIVE, PRESSURE-SENSITIVE, WATER RESISTANT | JAN-P-127 | DWG 75-14-437 |
| 17 | TETRYL | JAN-T-339 | DWG 75-14-438 |
| 18 | TRINITROTOLUENE | JAN-T-248 | DWG 75-14-437 |
| 19 | | | |

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NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|----------------------------|----------------|
| 1 | LOADING ASSEMBLY | 75-14-437 |
| 2 | METAL PARTS ASSEMBLY | 82-15-22 |
| 3 | DETAILS | 75-14-438 |
| 4 | CRATE, METAL, M153A1 | 76-17-21 |
| 5 | PACKING & MARKING OF CRATE | 20-4-440 |

**MINE, AT, HE, HEAVY, M6AI
LOADING ASSEMBLY.**

MARCH 9, 1944

REVISIONS

| | | |
|---|---------|--|
| 4 | 4-19-48 | |
| 5 | 6-10-49 | |

CLASS 75 **DIVISION** 14 **DRAWING** 437 **FILE**

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

| | | |
|-----------|--------------|-----------|
| DECIMAL 2 | FRACTIONAL 2 | ANGULAR 1 |
|-----------|--------------|-----------|

DRG. PERTAINS TO

OFFMAN ALM **TRACER** FCB **ENGINEER** S.H. **ENGINEER** S.H.

CHECKER R.C.V. **APPROVED** S.H. **DATE** 6-10-49

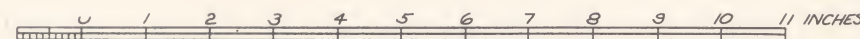
SUBMITTED

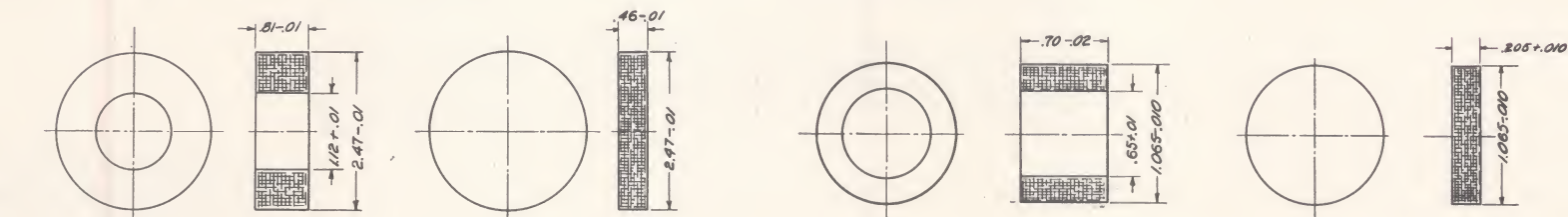
EXAMINED C.R. Dutton **COL, ORD. DEPT. U.S.A.**

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

82-0-129

ORDNANCE DEPT. U.S.A.



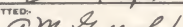
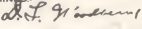
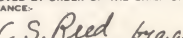




PELLET, SOLID, ACTIVATOR 75-14-438F3
APPROX. 69 GRAINS (4.5 GRAMS) TETRIL.
MAY CONTAIN NOT MORE THAN 2% OF EITHER
GRAPHITE, GRADE II, OR BARIUM STEARATE.
SHALL BE PRESSED TO A SPECIFIC GRAVITY OF
1.45 TO 1.60 (THROUGHOUT).

SCALE, INCHES, $\frac{2}{1}$, $\frac{1}{1}$

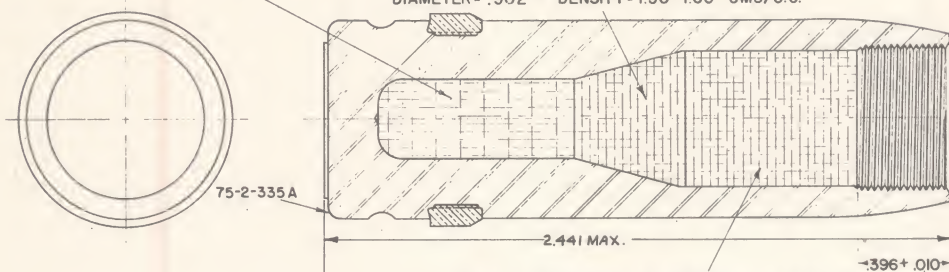
MINE, AT, HE, HEAVY, M6AI.
LOADING DETAILS.

| | | | | | | | | | | | |
|------------------|----------|--|--|--|--|--|--|--|--|------|--|
| MARCH 9, 1944 | | | | CLASS | | DIVISION | | DRAWING | | FILE | |
| REVISIONS | | | | 75 | | 14 | | 438 | | | |
| 1 | 8-24-44 | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED DECIMAL 1 FRACTIONAL 2 ANGULAR 3 | | | | | | | |
| 2 | 11-16-44 | | | | | | | | | | |
| 3 | 4-19-48 | | | | | | | | | | |
| | | | | | | | | | | | |
| DRG. PERTAINS TO | | | | DFTMAN K.L.M. | | TRACER K.L.M. | |  ENGINEER | | | |
| | | | | CHECKER J. G. P. | |  ENGINEER | | | | | |
| | | | | SUBMITTED:  C.M. GALLAGHER, COL., ORD. DEPT. U.S.A. | | | | | | | |
| | | | | EXAMINED:  R.L. WOODMAN, LT. COL., ORD. DEPT. U.S.A. | | | | | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:  C.S. REED, COL., ORD. DEPT. U.S.A. | | | | | | | |
| 75-14-437 | | | | ORDNANCE DEPT., U.S.A. | | | | | | | |

CHARGE, NO. 1 75-14-440B2
APPROX. 27.5 GRAINS (1.78 GRAMS)
INCENDIARY COMPOSITION
PRESS AT 40,000 TO 50,000 LBS. PER SQ. IN.
ADVISORY- TWO SOLID PELLETS;
DIAMETER-.284
DENSITY- MINIMUM FOR HANDLING.

CHARGE, NO. 2 75-14-440C4
APPROX. 9.5 GRAINS (.62 GRAMS) INCENDIARY COMPOSITION
AND 25.75 GRAINS (1.67 GRAMS) TETRYL. TETRYL MAY CONTAIN
NOT MORE THAN 2% GRAPHITE, GRADE "II". PRESS AT
40,000 TO 50,000 LBS. PER SQ. IN.
ADVISORY-INCENDIARY COMPOSITION-ONE SOLID PELLET.
DIAMETER-.284 DENSITY- MINIMUM FOR HANDLING.
TETRYL-ONE SOLID PELLET
DIAMETER-.502 DENSITY-1.50-1.60 GMS/C.C.

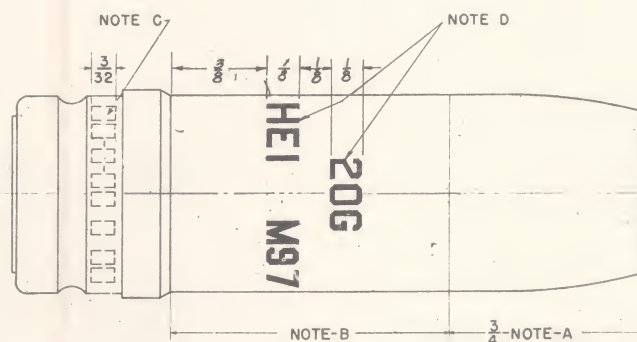
(a) ESTABLISH WEIGHT
OF CHARGE BY
TRIAL LOADING.



SHELL LOADING ASSEMBLY 75-14-440A3
MEAN VOLUME OF CHARGE CAVITY-.273 CU. IN.

CHARGE NO. 3 75-14-440D4
APPROX. 57 GRAINS (3.69 GRAMS) TETRYL (a)
MAY CONTAIN NOT MORE THAN 2% GRAPHITE,
GRADE II. PRESS AT 10,000 TO 20,000 LBS.
PER SQ. IN.
ADVISORY-ONE SOLID PELLET.
DIAMETER-.502
DENSITY-1.50-1.60 GMS/C.C.

| APPROXIMATE WEIGHTS | GRAINS |
|---------------------|---------|
| SHELL WEIGHT, EMPTY | 1557. |
| CHARGE, NO. 1 | 27.5 |
| CHARGE, NO. 2 | 35.25 |
| CHARGE, NO. 3 | 57. |
| TOTAL | 1676.75 |



MARKING DIAGRAM

MARKING INSTRUCTIONS

NOTES:-A-RETOUCH EXTERIOR SURFACE EXCEPT ROTATING BAND WHERE DAMAGED WITH
YELLOW LACQUER ENAMEL, GRADE II OR YELLOW LUSTRELESS ENAMEL, GRADE II
B-COAT SURFACE OF SHELL WITH RED LUSTRELESS LACQUER ENAMEL, GRADE I, OR
RED LUSTRELESS ENAMEL, GRADE I
C-INSERT LOT NUMBER, MONTH & YEAR OF LOADING. SAMPLE MARKING: 00-0000 0000
D-MARK WITH BLACK STENCIL INK. LOT NUMBER MONTH YEAR OF LOADING

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | KIND | GRADE | SPEC. NO. | APPROXIMATE WEIGHT (GRAINS) | APPROX. GROSS WT. OF RAW STOCK (WOOD ASSEMBLES) | REMARKS |
|----------|------------------------|-------------------------------|------------|--------------|-------------------------------------|------|-------|-----------|-----------------------------|---|---------|
| 1 | SHELL LOADING ASSEMBLY | | 75-14-440A | | | | | 50-21-44 | 1676.75 | | |
| 2 | METAL PARTS ASSEMBLY | | 75-2-335A | | | | | 50-30-4 | 1557. | | |
| 3 | | | | | | | | | | | |
| 4 | CHARGE, NO. 1 | 1 | 75-14-440B | | INCENDIARY COMPOSITION | | | 50-21-44 | 27.5 | | |
| 5 | CHARGE, NO. 2 | 1 | 75-14-440C | | INCENDIARY COMPOSITION & TETRYL | | | 50-21-44 | 35.25 | | |
| 6 | CHARGE, NO. 3 | 1 | 75-14-440D | | TETRYL | | | JAN-T-339 | 57. | | |
| 7 | | | | | GRAPHITE | | II | JAN-G-155 | | | |
| 8 | | | | | INK, STENCIL, BLACK | | | TT-I-558 | | | |
| 9 | | | | | ENAMEL, LACQUER, LUSTRELESS, RED | | II | JAN-L-73 | | | (a) |
| 10 | | | | | ENAMEL, LACQUER, LUSTRELESS, YELLOW | | I | JAN-L-73 | | | (b) |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |

(a) ALTERNATIVE MATERIAL:- RED LUSTRELESS ENAMEL, GRADE I, SPEC. JAN-E-74
(b) ALTERNATIVE MATERIAL:- YELLOW LUSTRELESS ENAMEL, GRADE I, SPEC. JAN-E-74

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|---|----------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-440 |
| 2 | CARTRIDGE, HEI, M97, ETC. FOR 20-MM GUNS, L.A.M. & P. | 50-21-44 | DRG. 75-14-440 |
| 3 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 | DRG. 75-14-440 |
| 4 | GRAPHITE (FOR USE IN AMMUNITION) | JAN-G-155 | DRG. 75-14-440 |
| 5 | | | |
| 6 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES | TT-I-558 | DRG. 75-14-440 |
| 7 | LACQUER, ENAMEL, LUSTRELESS | JAN-L-73 | DRG. 75-14-440 |
| 8 | PAINTS AND RELATED MATERIALS, GENERAL SPECIFICATIONS FOR | 3-1 | JAN-L-73 |
| 9 | SHELL, STEEL, MANUFACTURED FROM BAR STOCK | 50-3C-4 | DRG. 75-14-440 |
| 10 | TETRYL | JAN-T-339 | DRG. 75-14-440 |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |

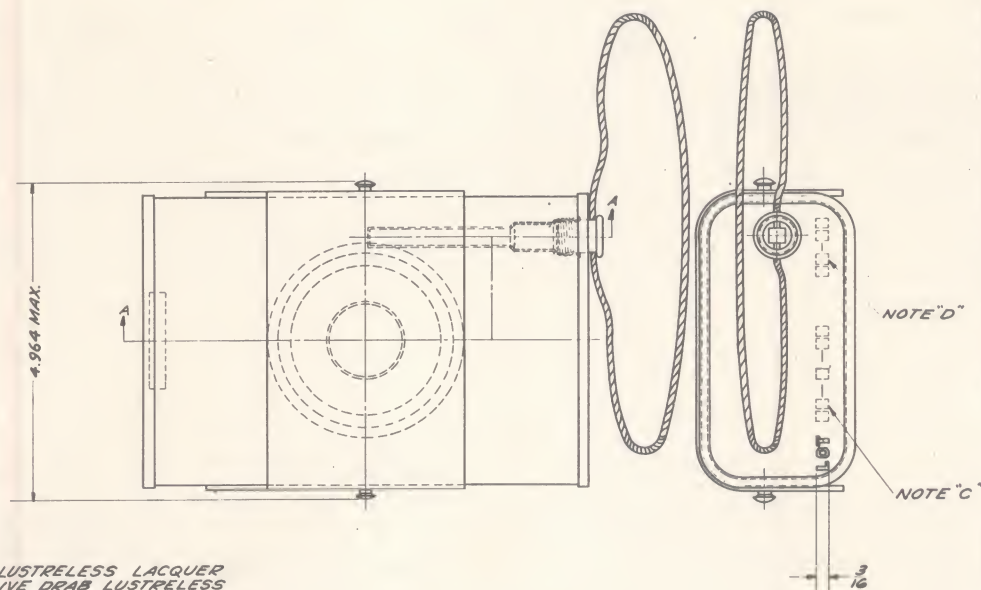
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CLASSIFICATION CHANGED TO
UNCLASSIFIED BY AUTHORITY OF
O.C.M. 26550.
BY LT. COL. [Signature] FEB. 1, 1945

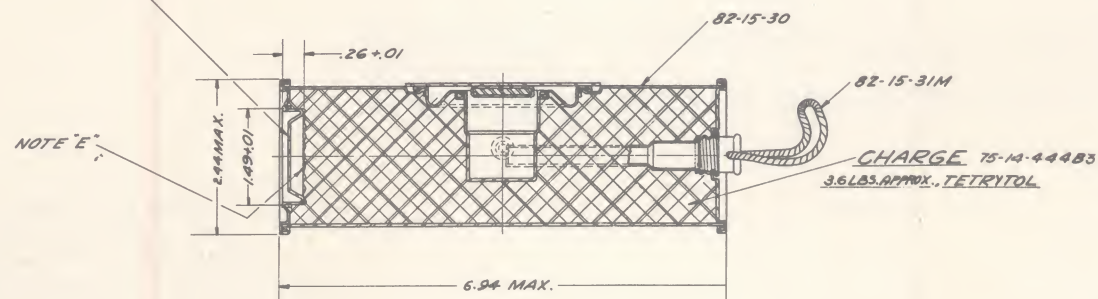
| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-440 |
| 2 | METAL PARTS ASSEMBLY | 75-2-335 |
| 3 | | |

SHELL, HE, INCENDIARY, 20MM, M97,
LOADING ASSEMBLY & MARKING DIAGRAM.

| | | | | | |
|---|---------|-------|----------|---------|------|
| FEBRUARY 17, 1944 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 440 | |
| 1 | 5-15-44 | | | | |
| 2 | 2-1-45 | | | | |
| 3 | 8-15-45 | | | | |
| 4 | 4-21-49 | | | | |
| SYMBOL | | | | | |
| DRG. PERTAINS TO | | | | | |
| SUBMITTED: | | | | | |
| EXAMINED: | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | | |
| ORDNANCE DEPT., U. S. A. | | | | | |



COAT WITH OLIVE DRAB LUSTRELESS LACQUER ENAMEL, GRADE II, OR OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, AFTER LOADING.



LOADING ASSEMBLY 75-14-444A3

NOTES:-
A-AFTER LOADING, TOUCH UP SURFACES WITH OLIVE DRAB LUSTRELESS LACQUER ENAMEL, GRADE II, OR OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, WHERE NECESSARY.
B-MARK WITH BLACK MARKING INK OR BLACK STENCIL PAINT, TYPE I OR II.
C-INSERT LOT NUMBER.
D-INSERT DATE (MONTH AND YEAR) LOADED.
E-IRREGULAR SURFACE PERMITTED.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE-MARK | MATERIAL | | | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW MATERIAL PER ASSEMBLY | REMARKS |
|----------|------------------------|----------------------------|------------|--------------|--|-------|--------------|----------------------------------|--|---------|
| | | | | SIZE OR FORM | KIND | GRADE | | | | |
| 1 | LOADING ASSEMBLY | | 75-14-444A | | | | AXS-1178 | 4.4 | | |
| 2 | METAL PARTS ASSEMBLY | | 82-15-30 | | | | | .8 | | |
| 3 | CARRYING PLUG ASSEMBLY | 1 | 82-15-31M | | | | | .02 | | |
| 4 | | | | | | | | | | |
| 5 | CHARGE | 1 | 75-14-444B | CAST | TETRYTOL | | | 3.6 | | (C) |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | INK, MARKING, BLACK | | 36-2 | | | (b) |
| 11 | | | | | LACQUER, LUSTRELESS ENAMEL, OLIVE DRAB | II | 3-162 | | | (a) |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |

(a) ALTERNATIVE MATERIAL:- OLIVE DRAB LUSTRELESS ENAMEL, GRADE II, SPEC. 3-67.
(b) ALTERNATIVE MATERIAL:- BLACK STENCIL PAINT, TYPE I OR II, SPEC. 3-179.
(c) TETRYTOL TETRIL 65% \pm 5% SPEC. 50-13-4.
TRINITROTOLUENE 35% \pm 5% SPEC. 50-13-5.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|---|----------------|----------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | AXS-1178 |
| 2 | ENAMEL, LUSTRELESS, QUICK-DRYING | 3-67 | DRG. 75-14-444 |
| 3 | | | |
| 4 | | | |
| 5 | INK, MARKING, (FOR MARKING AMMUNITION) | 36-2 | DRG. 75-14-444 |
| 6 | MINE, AT, HE, LIGHT, M7AI, LOADING, ASSEMBLING, & PACKING | AXS-1178 | DRG. 75-14-444 |
| 7 | LACQUER ENAMEL, LUSTRELESS | 3-162 | DRG. 75-14-444 |
| 8 | | | |
| 9 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | 3-162 |
| 10 | | | |
| 11 | PAINT, STENCIL | 3-179 | DRG. 75-14-444 |
| 12 | | | |
| 13 | TETRYL | 50-13-4 | DRG. 75-14-444 |
| 14 | TRINITROTOLUENE (TNT) | 50-13-5 | DRG. 75-14-444 |
| 15 | | | |

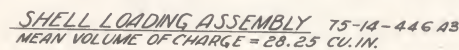
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| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|----------------------------|----------------|
| 1 | LOADING ASSEMBLY | 75-14-444 |
| 2 | | |
| 3 | METAL PARTS ASSEMBLY | 82-15-30 |
| 4 | | |
| 5 | BOX, MINE METAL, M156 | 76-1-625 |
| 6 | PACKING AND MARKING OF BOX | 20-4-435 |

CLASSIFICATION CHANGED TO UNCLASSIFIED
BY AUTHORITY OF O.C.M. 25174
LT. COL., *Wm. J. G. G. G.* DATE NOV. 14, 1944

| | | | |
|--|----------|------------------------|----------|
| MINE, AT, HE, LIGHT, M7AI LOADING ASSEMBLY | | | |
| FEB. 2, 1944 | | CLASS | DIVISION |
| REVISIONS | | 75 | 14 |
| 1 | 7-11-44 | | |
| 2 | 11-18-44 | | |
| 3 | 8-15-45 | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL \pm | | | |
| FRACTIONAL \pm | | | |
| ANGULAR \pm | | | |
| DRG. PERTAINS TO | | | |
| SUBMITTED | | | |
| EXAMINED | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | |
| D | | ORDNANCE DEPT., U.S.A. | |





Technical drawing of a shell and mortar assembly. The drawing shows a side view of the mortar and a top view of the shell. The shell is labeled "SHELL M1" and "TNT". The mortar is labeled "M1 SUPPL. CHG". Dimensions are given in inches. A note "NOTE \"B\"" is present.

Dimensions (inches):

- Shell length: 30.0
- Shell diameter: 3.0
- Mortar length: 30.0
- Mortar diameter: 3.0
- Mortar base diameter: 3.0
- Mortar base height: 1.0
- Mortar base width: 1.0
- Mortar base depth: 1.0

NOTE "B"

NOTES :-

- 1- MARK WITH YELLOW STENCIL INK.
2- RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED,
WITH ENAMEL OLIVE DRAB, GRADE 1.
ADVISORY- AFTER RETOUCHING, BOURRELET DIAMETER SHOULD NOT
EXCEED 3.640
3- HOLES IN SHELL CHARGE WITHIN THIS REGION SHALL NOT CAUSE REJECTION.
4- CHARGE SUPPLEMENTARY TO BE PLACED IN CAVITY WITH FELT
AND END INSERTED FIRST.
5- TNT MUST NOT EXTEND BEYOND THE TOP OF THE LINER.
6- NO CHARGE PERMITTED INSIDE OF LINER.
H- SAMPLE WEIGHT MARKING.

[illegible]

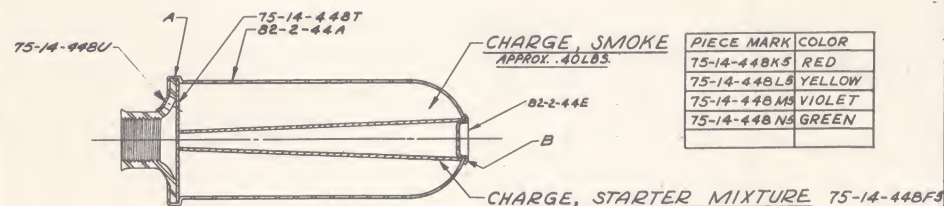
| LINE NO | LIST OF SPECIFICATIONS | SPEC. NUMBER X | REQUIRED BY |
|---------|---|-------------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-446 |
| 2 | | | |
| 3 | | | |
| 4 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DRG. 75-14-446 |
| 5 | | | |
| 6 | INK, STENCIL; OPAQUE FOR MARKING NON-POROUS SURFACES, ETC | TT-I-55B | DRG. 75-14-446 |
| 7 | | | |
| 8 | LOADING OF H.E. SHELL WITH TNT, 50-50 AMOTOL, ETC. | 50-15-5 | DRG. 75-14-446 |
| 9 | | | |
| 10 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, ETC | TT-P-141 | JHN-E-74 |
| 11 | | | |
| 12 | | | |
| 13 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG. 75-14-446 |
| 14 | TRINITROTOLUENE (TNT) | JAN-T-24B | DRG. 75-14-446 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-446 |
| 2 | METAL PARTS ASSEMBLY | 75-18-42 |
| 3 | LOADING ACCESSORIES | 75-14-468 |
| 4 | STD FOR DIMENSIONING & TOLERANCING | 30-1-7 |

SHELL, HE, 90MM., M71, W/SUPL. CHG.,
SHELL LOADING ASSEMBLY.
MARKING DIAGRAM AND DETAILS.

| | | | | | | | | | | | |
|------------------|---------|--|--|---|--|----------|--|------------|--|----------------|--|
| FEB 18, 1944 | | | | CLASS | | DIVISION | | DRAWING | | FILE | |
| REVISONS | | | | 75 | | 14 | | 446 | | | |
| 1 | 7-25-44 | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | | | |
| 2 | 4-7-45 | | | | | | | | | | |
| 3 | 1-5-50 | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | DECIMAL 1 | | | | | | | |
| | | | | FRACTIONAL 2 | | | | | | | |
| | | | | ANGULAR 2 | | | | | | | |
| | | | | D.T.H.M. | | TRACER | | S.C. GALLO | | MR. GRS | |
| DRG. PERTAINS TO | | | | CHECKER | | J.A.F. | | J.H.M. 60 | | CHIEF D.T.H.M. | |
| | | | | | | | | | | M.T. | |
| | | | | SUBMITTED: | | | | | | | |
| | | | | <i>Miles & George</i> COL., ORD. DEPT., U.S.A. | | | | | | | |
| | | | | EXAMINED: | | | | | | | |
| | | | | <i>R.F. Evans</i> CAPT., ORD. DEPT., U.S.A. | | | | | | | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | | | | |
| | | | | <i>W. H. ...</i> COL., ORD. DEPT., U.S.A. | | | | | | | |
| D | | | | ORDNANCE DEPT., U.S.A. | | | | | | | |



LOADING ASSEMBLY

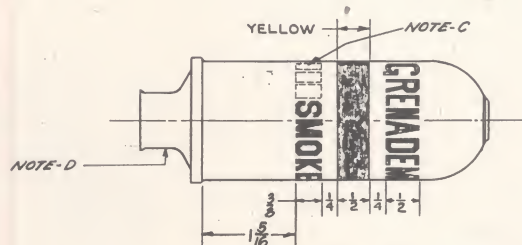
| PIECE MARK | COLOR |
|-------------|--------|
| 75-14-448A5 | RED |
| 75-14-448B5 | YELLOW |
| 75-14-448C5 | VIOLET |
| 75-14-448D5 | GREEN |

NOTES:-
A - APPLY SYNTHETIC RUBBER ADHESIVE, TYPE I AND CRIMP 360°.
B - COAT INSIDE OF PLUG WITH ACID-PROOF BLACK PAINT AND ASSEMBLE WHILE WET.

GRENAD, M22A1

COLOR AS APPLICABLE

SMOKE

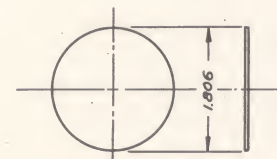


MARKING DIAGRAM
MARK WITH STENCIL INK, LACQUER ENAMEL OR ENAMEL (YELLOW NO. 316)

SAMPLE MARKING

NOTES:-
C - INDICATE ONE OF FOUR COLORS OF SMOKE
1. RED
2. YELLOW
3. VIOLET
4. GREEN

D - COAT EXTERIOR SURFACE OF BODY UNIFORM WITH LACQUER ENAMEL OR ENAMEL OF A COLOR CORRESPONDING TO COLOR OF SMOKE CHARGE.



COVER, STARTER CUP 75-14-448T2 PATCH SEALING 75-14-448U4
WOOL BUNTING (IMPREGNATED) PLASTER, ADHESIVE (WATERPROOF)

SCALE 1/2"

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD. PER COMPONENT | PIECE MARK | MATERIAL | | | | APPROX. UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
|----------|-------------------------------------|----------------------------|------------|--------------|-----------------------------|--------|----------------------|------------------------------|--|---------|
| | | | | SIZE OR FORM | KIND | GRADE | SPECIFICATION NUMBER | | | |
| 1 | LOADING ASSEMBLY | | SEE TABLE | | | | | | | (c) |
| 2 | METAL PARTS ARRANGEMENT AND DETAILS | 1 | 82-2-44A | | | | | | | |
| 3 | CHARGE, SMOKE | 1 | SEE TABLE | | | | | | | (C) |
| 4 | | | | | | | | | | |
| 5 | CHARGE, STARTER MIXTURE | | 75-14-448F | | | | | | | (c) |
| 6 | | | | | | | | | | |
| 7 | COVER, STARTER CUP | 1 | 75-14-448T | SHEET | WOOL BUNTING (IMPREGNATED) | | CCC-B-801 | | | (b) (C) |
| 8 | PLUG, BODY | 1 | 82-2-44E | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | ADHESIVE, RUBBER, SYNTHETIC | TYPE I | 62-4 | | | |
| 11 | PATCH, SEALING | 5 | 75-14-448U | SHEET | WATERPROOF ADHESIVE PLASTER | | 197-54-258 | | | (c) |
| 12 | | | | | | | | | | |
| 13 | | | | | INK, STENCIL , YELLOW | | TT-I-558 | | | (a) |
| 14 | | | | | PAINT, ACID-PROOF BLACK | | JAN-P-450 | | | |

(a) - ALTERNATIVE MATERIAL: (b) YELLOW NO. 316, GRADE I, LACQUER ENAMEL, SPEC. JAN-L-73 OR ENAMEL, SPEC. JAN-E-74 (d)
(b) ALTERNATIVE MATERIAL: (c) SHEETING, COTTON, UNBLEACHED, WIDE (IMPREGNATED) SPEC. CCC-S-291
(c) SPECIFICATIONS FURNISHED BY CHEMICAL WARFARE SERVICE.
(d) COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1
(e) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------|----------------|
| 1 | LOADING ASSEMBLY | 75-14-448 |
| 2 | | |
| 3 | METAL PARTS | 82-2-44 |
| 4 | | |

| LINE NO. | LIST OF SPECIFICATIONS | SPECIFICATION NUMBER | REQUIRED BY |
|----------|---|----------------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-O-1 | DRG. 75-14-448 |
| 2 | ADHESIVE, SYNTHETIC RUBBER (HOT OR COLD BONDING) | 62-4 | DRG. 75-14-448 |
| 3 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 | DRG. 75-14-448 |
| 4 | | | |
| 5 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES, ETC | TT-I-558 | DRG. 75-14-448 |
| 6 | | | |
| 7 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG. 75-14-448 |
| 8 | | | |
| 9 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-L-73 |
| 10 | | | |
| 11 | PAINT, ACID-PROOF, BLACK, FOR AMMUNITION | JAN-P-450 | DRG. 75-14-448 |
| 12 | SHEETING, COTTON, UNBLEACHED, WIDE | (C) CCC-S-291 | DRG. 75-14-448 |
| 13 | WOOL BUNTING | (C) CCC-B-801 | DRG. 75-14-448 |
| 14 | WATERPROOF ADHESIVE PLASTER | (C) 197-54-258 | DRG. 75-14-448 |

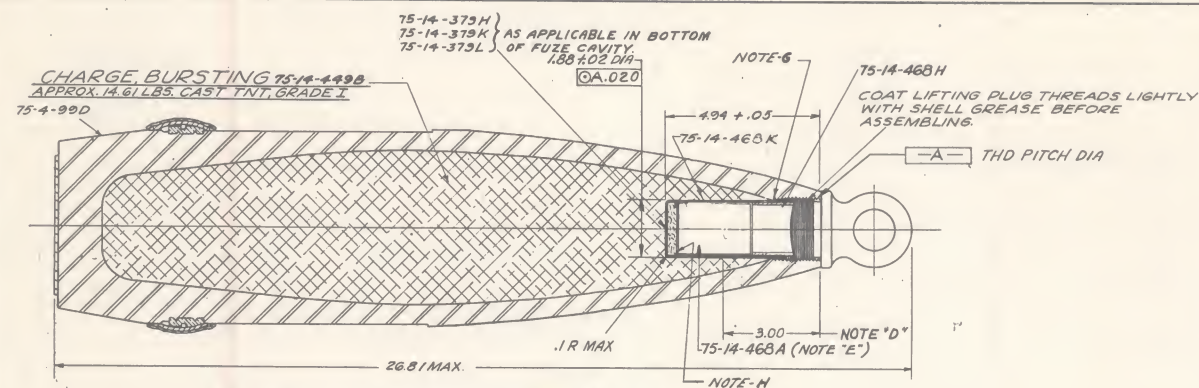
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.

CLASSIFICATION CHANGED TO UNCLASSIFIED BY AUTHORITY OF OCM 24380 BY LT. COL. [Signature] AUG 25 1995

SUPERSEDES OLD TRACING 75-14-448 UNDER REVISION DATE OF NOV. 7, 1944.

GRENAD, RIFLE, SMOKE (COLORED), M22A1 LOADING ASSEMBLY AND MARKING DIAGRAM.

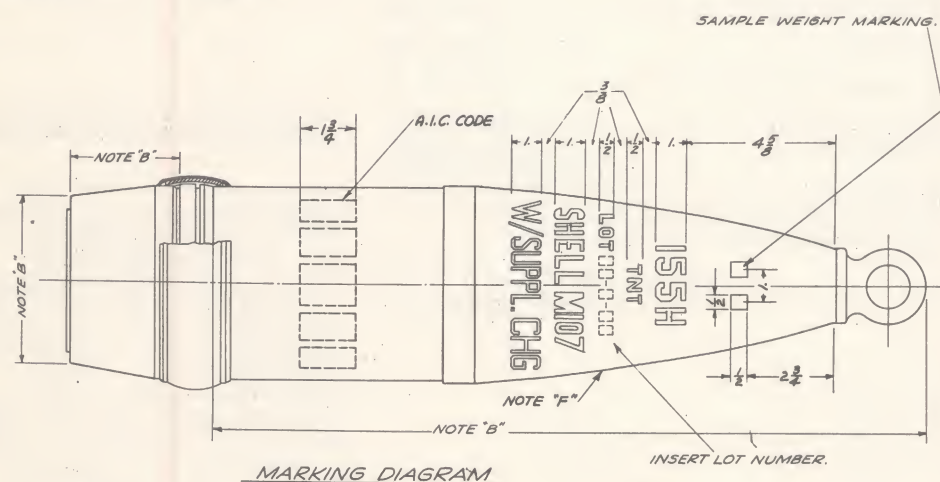
| | | | | | |
|---|---------|-------|----------|---------|------|
| FEB. 25, 1944 | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | 75 | 14 | 448 | |
| 1 | 4-10-44 | | | | |
| 2 | 8-31-44 | | | | |
| 3 | 11-7-44 | | | | |
| 4 | 8-8-45 | | | | |
| 5 | 6-1-49 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | | |
| DECIMAL 2 | | | | | |
| FRACTIONAL 2 | | | | | |
| ANGULAR 2 | | | | | |
| DRG. PERTAINS TO | | | | | |
| 82-2-44 | | | | | |
| SUBMITTED: | | | | | |
| [Signature] | | | | | |
| EXAMINED: | | | | | |
| [Signature] | | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | | |
| C. S. Reed | | | | | |
| COL., ORD. DEPT. U.S.A. | | | | | |
| ORDNANCE DEPT., U.S.A. | | | | | |



SHELL LOADING ASSEMBLY 75-14-449A4
MEAN VOLUME OF CHARGE = 256.31 CU. IN.

| APPROX. WEIGHTS | |
|-----------------------|--------------|
| PART | POUNDS |
| SHELL, EMPTY | 77.45 ± 1.35 |
| CHARGE, BURSTING | 14.61 |
| LINER | .035 |
| CHARGE, SUPPLEMENTARY | .365 |
| TOTAL WEIGHT, UNFUZED | 92.47 |
| GROMMET | .49 |
| PLUS, LIFTING | 1.75 |
| SPACER | .011 |
| SHIPPING WEIGHT | 94.72 |

| WEIGHT ZONE | | | |
|-------------|--------------|------------------|-------|
| ZONE | LOADED SHELL | | MARK |
| | OVER | UPTO & INCLUDING | |
| | LBS. | LBS. | |
| 1 | 90.0 | 91.3 | 00 |
| 2 | 91.1 | 92.4 | 000 |
| 3 | 92.2 | 93.5 | 0000 |
| 4 | 93.3 | 94.6 | 00000 |



NOTES:
A- MARK WITH YELLOW STENCIL INK.
B- RETOUCH SURFACES, WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE-DRAB ENAMEL, GRADE I. BOURRELET, AFTER RETOUCHING, SHALL PASS 6.0984 MAX DIAMETER RING GAGE.
D- VOIDS IN SHELL CHARGE WITHIN THIS REGION SHALL NOT CAUSE REJECTION.
E- CHARGE, SUPPLEMENTARY, TO BE PLACED IN SHELL CAVITY WITH FELT PAD END INSERTED FIRST.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQUIRED PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | GRADE | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX. GROSS WT. OF RAW MATERIALS | REMARKS |
|----------|---------------------------------|-------------------------------|------------|--------------|----------------------|-------|--------------|----------------------------------|------------------------------------|---------|
| 1 | SHELL LOADING ASSEMBLY | | 75-14-449A | | | | 50-15-5 | 94.72 | | |
| 2 | METAL PARTS ASSEMBLY | 1 | 75-4-99D | | | | 50-30-1 | 79.70 | | |
| 3 | | | | | | | | | | |
| 4 | CHARGE, BURSTING | 1 | 75-14-449B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 14.61 | | |
| 5 | LINER | 1 | 75-14-468K | | | | | .035 | | |
| 6 | CHARGE, SUPPLEMENTARY, ASSEMBLY | 1 | 75-14-468A | | | | | .365 | | |
| 7 | SPACER | 1 | 75-14-468H | | | | | .011 | | |
| 8 | | | | | GREASE, SHELL | | 50-11-37 | | | |
| 9 | | | | | INK, STENCIL, YELLOW | | TT-I-558 | | | |
| 10 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | | |
| 11 | DISK, PAPER | 1 | 75-14-379H | | | | | | | (C) |
| 12 | | | | | | | | | | |

(C) OR 75-14-379K, OR 75-14-379L AS APPLICABLE.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|----------------|
| 1 | | | |
| 2 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-449 |
| 3 | | | |
| 4 | ENAMEL, LUSTRELESS, QUICK DRYING, | JAN-E-74 | DRG. 75-14-449 |
| 5 | GREASE, SHELL | 50-11-37 | DRG. 75-14-449 |
| 6 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES, ETC | TT-I-558 | DRG. 75-14-449 |
| 7 | | | |
| 8 | | | |
| 9 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, ETC | TT-P-141 | JAN-E-74 |
| 10 | | | |
| 11 | LOADING OF H.E. SHELL WITH TNT, 50-50 AMATOL, ETC. | 50-15-5 | DRG. 75-14-449 |
| 12 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG. 75-14-449 |
| 13 | | | |
| 14 | TRINITROTOLUENE (TNT) | JAN-T-248 | DRG. 75-14-449 |
| 15 | | | |
| 16 | | | |

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| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-449 |
| 2 | METAL PARTS ASSEMBLY | 75-4-99 |
| 3 | LOADING ACCESSORIES | 75-14-468 |
| 4 | PACKING PROJ. EMPTY & LOADED, ETC. | 79-3-2 |
| 5 | PACKING PROJ. EMPTY & LOADED, ETC., DETAILS | 79-3-3 |
| 6 | LOADING ACCESSORIES, ETC., DETAILS | 75-14-379 |
| 7 | STD FOR DIMENSIONING & TOLERANCING | 30-1-7 |

SHELL, H.E., 155MM, M107, (W/SUPPL. CHG.)
SHELL LOADING ASSEMBLY
MARKING DIAGRAM

FEBRUARY 14, 1944

| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
|-----------|-------|----------|---------|------|
| 1 8-22-44 | 75 | 14 | 449 | |
| 2 4-7-45 | | | | |
| 3 5-21-46 | | | | |
| 4 1-5-50 | | | | |

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

DECIMAL 2
FRACTIONAL 2
ANGULAR 2

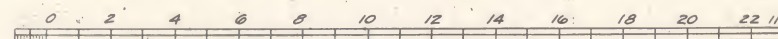
DRG. PERTAINS TO

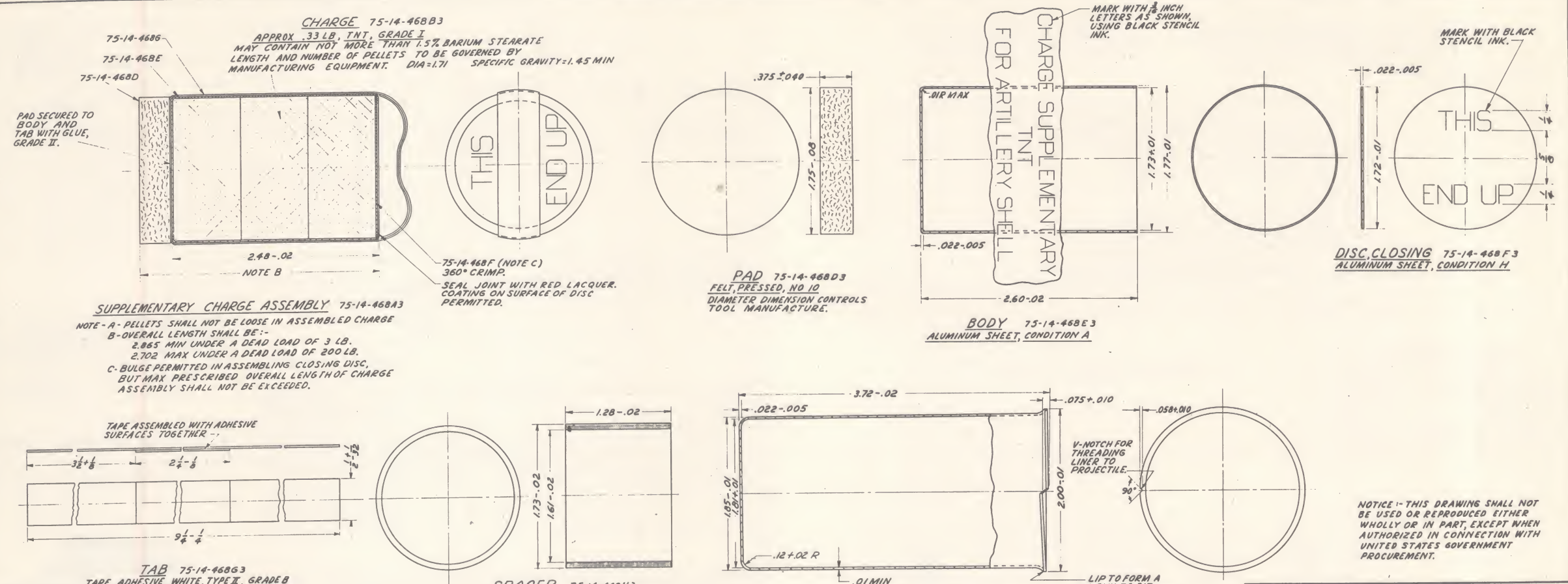
ENGINEER
WCS
J.A.F.
J.H.M.
M.T.

EXAMINED:
R.F. Bunnell
CAPT. ORD. DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
R.F. Bunnell
COL. ORD. DEPT. U.S.A.

ORDNANCE DEPT., U.S.A.





CHARGE 75-14-468B3
APPROX. .33 LB. TNT, GRADE I
MAY CONTAIN NOT MORE THAN 1.5% BARIUM STEARATE
LENGTH AND NUMBER OF PELLETS TO BE GOVERNED BY
MANUFACTURING EQUIPMENT. DIA=1.71 SPECIFIC GRAVITY=1.45 MIN

SUPPLEMENTARY CHARGE ASSEMBLY 75-14-468A3
NOTE - A - PELLETS SHALL NOT BE LOOSE IN ASSEMBLED CHARGE
B - OVERALL LENGTH SHALL BE:-
2.865 MIN UNDER A DEAD LOAD OF 3 LB.
2.702 MAX UNDER A DEAD LOAD OF 200 LB.
C - BULGE PERMITTED IN ASSEMBLING CLOSING DISC,
BUT MAX PRESCRIBED OVERALL LENGTH OF CHARGE
ASSEMBLY SHALL NOT BE EXCEEDED.

TAB 75-14-468G3
TAPE, ADHESIVE, WHITE, TYPE II, GRADE B

SPACER 75-14-468H3
BOXBOARD
CONVOLUTE OR SPIRAL WOUND AND SECURED
WITH GLUE, GRADE II, BETWEEN LAYERS.

LINER 75-14-468K3
ALUMINUM SHEET, CONDITION A

DISC CLOSING 75-14-468F3
ALUMINUM SHEET, CONDITION H

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE MARK | SIZE OR FORM | MATERIAL | KIND | GRADE | SPEC NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WT. OF RAW STOCK MATERIAL | REMARKS |
|----------|-------------------------------|---------------------------|------------|--------------|-----------------------|------------|-----------|-------------|----------------------------------|--|---------|
| 1 | SUPPLEMENTARY CHARGE ASSEMBLY | 1 | 75-14-468A | SHEET | ALUMINUM | COND A | QQ-A-561 | .024 | .365 | | (a) |
| 2 | BODY | 1 | 75-14-468E | SHEET | ALUMINUM | COND A | QQ-A-561 | .024 | .365 | | |
| 3 | CHARGE | 1 | 75-14-468B | PELLET | TRINITROTOLUENE (TNT) | I | JAN-T-248 | .33 | | | |
| 4 | DISC CLOSING | 1 | 75-14-468F | SHEET | ALUMINUM | COND H | QQ-A-561 | .004 | | | |
| 5 | DISC CLOSING | 1 | 75-14-468F | SHEET | ALUMINUM | COND H | QQ-A-561 | .004 | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | LINER | 1 | 75-14-468K | SHEET | ALUMINUM | COND A | QQ-A-561 | .035 | | | (b) |
| 10 | PAD | 1 | 75-14-468D | SHEET | FELT, PRESSED | NO. 10 | 8-15 | .006 | | | |
| 11 | SPACER | 1 | 75-14-468H | SHEET | BOXBOARD | | 50-11-79 | .01 | | | |
| 12 | TAB | 1 | 75-14-468G | STRIP | TAPE, ADHESIVE, WHITE | TYPE II, B | JAN-P-127 | .001 | | | |
| 13 | | | | | BARIUM STEARATE | | | | | | |
| 14 | | | | | GLUE | II | 3-102 | | | | |
| 15 | | | | | INK, STENCIL, BLACK | | TT-I-558 | | | | |
| 16 | | | | | LACQUER, RED | CLASS B | 3-158 | | | | |

(a) ALTERNATIVE MATERIAL: (c) ALUMINUM EXTRUSION, CONDITION F, SPEC QQ-A-411. (c) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.
(b) SPECIFICATION APPLIES FOR WEIGHT - 40 OUNCES MIN PER SQ YD.
SUPERSEDES 75-14-468 WITH CHANGE JAN 5, 1950.

LIST OF SPECIFICATIONS

| LINE NO. | SPEC NUMBER | REQUIRED BY |
|----------|---|-------------------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC FOR | 50-0-1 DWG-75-14-468 |
| 2 | ALUMINUM (AL-2) BARS, RODS, SHAPES AND WIRE | QQ-A-411 DWG-75-14-468 |
| 3 | ALUMINUM (AL-2); PLATE AND SHEET | QQ-A-561 DWG-75-14-468 |
| 4 | BARIUM STEARATE | JAN-B-366 DWG-75-14-468 |
| 5 | BOXBOARD | 50-11-79 DWG-75-14-468 |
| 6 | FELT, PRESSED | 8-15 DWG-75-14-468 |
| 7 | GLUE, FOR USE IN LOADING AMMUNITION | 3-102 DWG-75-14-468 |
| 8 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES, ETC | TT-I-558 DWG-75-14-468 |
| 9 | LACQUER; CELLULOSE NITRATE, AND THINNER (CLEAR AND PIGMENTED) | 3-158 DWG-75-14-468 |
| 10 | METALS; GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 QQ-A-561 |
| 11 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, ETC | TT-P-141 3-158 |
| 12 | PAPER; GENERAL SPECIFICATIONS | UU-P-31 50-11-79 |
| 13 | | |
| 14 | | |
| 15 | TAPE, ADHESIVE, PRESSURE-SENSITIVE, WATER-RESISTANT | JAN-P-127 DWG-75-14-468 |
| 16 | TRINITROTOLUENE (TNT) | JAN-T-248 DWG-75-14-468 |

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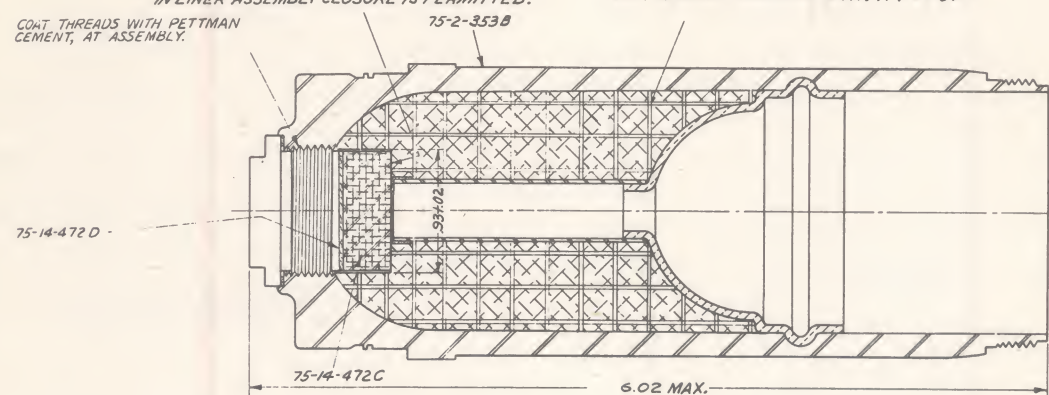
LOADING ACCESSORIES FOR DEEP CAVITY LOADED SHELL.

| | | | |
|---------------------------------------|---------------------|----------------|----------------|
| HEAT TREATMENT & PROTECTIVE FINISH | CLASS | DIVISION | DRAWING |
| | 75 | 14 | 468 |
| PHYSICAL PROPERTIES | DRAWING PERTAINS TO | | |
| | NO. 1 | MAJOR ITEM | NO. 1 |
| | NO. 2 | NO. 2 | NO. 2 |
| | NO. 3 | NO. 3 | NO. 3 |
| ORIGINAL DATE OF DRAWING | JULY 5, 1944 | | |
| REVISIONS | | | |
| 3 | 1-5-50 | ECO | 16144 |
| WEIGHT | DO NOT | APPLY PART NO. | (As Specified) |
| SCALE | CCB | H. H. K. | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED | CCB | H. H. K. | |
| APPROVED | J. H. K. | | |
| DATE | JULY 5, 1944 | | |
| DESIGNED BY | J. H. K. | | |
| CHECKED BY | J. H. K. | | |
| APPROVED BY | J. H. K. | | |
| DATE | JULY 5, 1944 | | |
| DESIGNED BY | J. H. K. | | |
| CHECKED BY | J. H. K. | | |
| APPROVED BY | J. H. K. | | |
| DATE | JULY 5, 1944 | | |

BOOSTER PELLET CAVITY SHALL BE FLUSH WITH
END OF LINER ASSEMBLY. COMPOSITION B FILM
BETWEEN END OF LINER ASSEMBLY AND BOOSTER
PELLET RESULTING FROM IRREGULARITIES
IN LINER ASSEMBLY CLOSURE IS PERMITTED.

CUT THREADS WITH PETTMAN
CEMENT, AT ASSEMBLY.

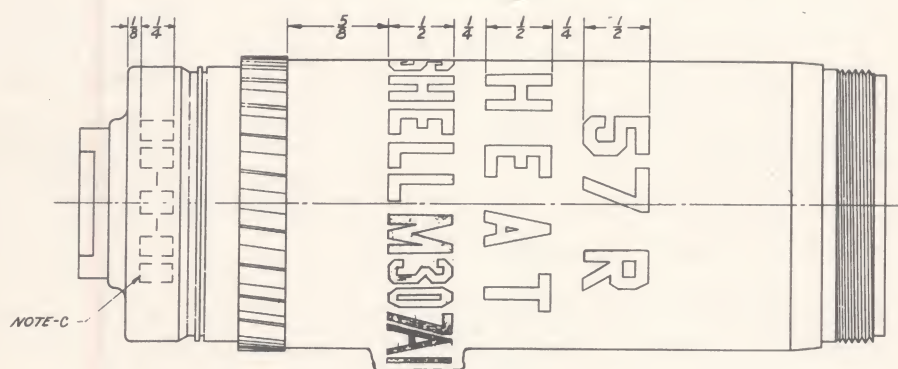
CHARGE, BURSTING 75-14-472B5
APPROX .40 LB CAST COMP B, GRADE I
MIN. OVERALL SPECIFIC GRAVITY = 1.64



APPROX. WEIGHTS

| PART | POUNDS |
|-----------------------|------------|
| METAL PARTS ASSEMBLY | 2.09 ± .05 |
| CHARGE, BURSTING | .40 |
| PELLET, BOOSTER | .01 |
| TOTAL WEIGHT, UNFUZED | 2.50 |

SHELL LOADING ASSEMBLY 75-14-472A5
MEAN VOLUME OF CHARGE = .3 CU. IN.



MARKING DIAGRAM

NOTES:-
A-RETOUCH THE SURFACE WHERE PREVIOUS COATING IS DAMAGED
WITH OLIVE DRAB ENAMEL, GRADE I.
ADVISORY-AFTER RETOUCHING, BOURRELET DIAMETER SHOULD NOT
EXCEED 2.240
B-MARK WITH YELLOW STENCIL INK.
C-INSERT LOT NUMBER.

LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD PER COMPONENT | PIECE- MARK | SIZE OR FORM | MATERIAL KIND | GRADE | SPEC. NUMBER | APPROXIMATE WEIGHT (POUNDS) | APPROX GRASS PNT. OF RAW STOCK PART AND ASSEMBLIES | REMARKS |
|----------|------------------------|---------------------------------|----------------|--------------------|---------------------|--------------|-----------------|-----------------------------------|---|---------|
| 1 | SHELL LOADING ASSEMBLY | | 75-14-472A | | | | 50-15-5 | 2.50 | | |
| 2 | METAL PARTS ASSEMBLY | | 75-2-353B | | | | PXS-1130 | 2.09 ± .05 | | |
| 3 | | | | | | | | | | |
| 4 | CHARGE, BURSTING | 1 | 75-14-472B | CAST | COMPOSITION B. | I | JAN-C-401 | .40 | | a |
| 5 | PELLET, BOOSTER | 1 | 75-14-472C | PELLET | RDX | | JAN-R-398 | .01 | | b |
| 6 | SPACER | 1 | 75-14-472D | SHEET | FELT | | B-15 | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | ENAMEL, OLIVE DRAB | I | JAN-E-74 | | | |
| 9 | | | | | ACID, STEARIC | | JAN-A-271 | | | c |
| 10 | | | | | INK, YELLOW STENCIL | | TT-I-558 | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | PETTMAN CEMENT | TYPE I OR II | JAN-C-99 | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |

a-SPECIFICATION JAN-C-401 SHALL APPLY EXCEPT EFFLUX VISCOSITY TO BE 50 SECS. PLUS .5 SECS. MINUS 1.5 SECS.

b-SPECIFICATION JAN-R-398 SHALL APPLY
EXCEPT THAT RDX TYPE B, CONFORMING TO THE FOLLOWING GRANULATION REQUIREMENTS SHALL BE USED.
THROUGH U.S. STANDARD SIEVE NUMBER:

| PERCENT | PERCENT |
|---------|------------|
| 20 | 38 MINIMUM |
| 35 | 66 ± 5 |
| 50 | 38 ± 5 |
| 100 | 26 ± 5 |
| 200 | 16 ± 5 |

c-SPECIFICATION JAN-A-271 SHALL APPLY EXCEPT
THE SOLIDIFICATION POINT SHALL BE
66°C MINIMUM. THE IODINE NUMBER 10 MIN.
AND THE STEARIC ACID SHALL CONFORM TO
THE FOLLOWING GRANULATION REQUIREMENTS:
THROUGH U.S. STANDARD SIEVE NO. 50
100 MINIMUM
100 85 MINIMUM

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|--|--------------------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 DRG. 75-14-472 |
| 2 | FELT | B-15 DRG. 75-14-472 |
| 3 | CEMENT, PETTMAN | JAN-C-99 DRG. 75-14-472 |
| 4 | COLOR CARD SUPPLEMENT | 3-1 TFP-141 |
| 5 | ACID, STEARIC | JAN-A-271 DRG. 75-14-472 |
| 6 | LOADING OF HIGH EXPLOSIVE SHELL WITH TRINITROTOLUENE, ETC. | 50-15-5 DRG. 75-14-472 |
| 7 | INK, STENCIL, OPAQUE, FOR MARKING NON-POROUS SURFACES (METAL, GLASS, ETC.) | TT-I-558 DRG. 75-14-472 |
| 8 | PAINT, VARNISH, LACQUER AND RELATED MATERIALS | TT-P-141 JAN-E-74 |
| 9 | COMPOSITION B | JAN-C-401 DRG. 75-14-472 |
| 10 | SHELL, HEAT, 57MM, M307A1, METAL PARTS FOR | PXS-1130 DRG. 75-14-472 |
| 11 | RDX | JAN-R-398 DRG. 75-14-472 |
| 12 | ENAMEL, LUSTRELESS, QUICK DRYING | JAN-E-74 DRG. 75-14-472 |
| 13 | | |
| 14 | | |
| 15 | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION
IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO
IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

CLASSIFICATION CHANGED TO
UNCLASSIFIED BY AUTHORITY
OF OCM NO. 29730
BY 7216/10/10 DATE SEP 20 1968

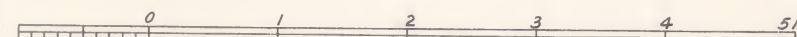


PELLET, BOOSTER 75-14-472C5

106.5-10.5 GRAINS (6.9-7.6 GRAMS), RDX, TYPE B
MAY CONTAIN NOT MORE THAN 2% STEARIC ACID, CLASS A OR B.
ADVISORY: MIN. SPECIFIC GRAVITY 1.60

SPACER 75-14-472D3

FELT
DIAMETER DIMENSION
CONTROLS TOOL MANUFACTURE.

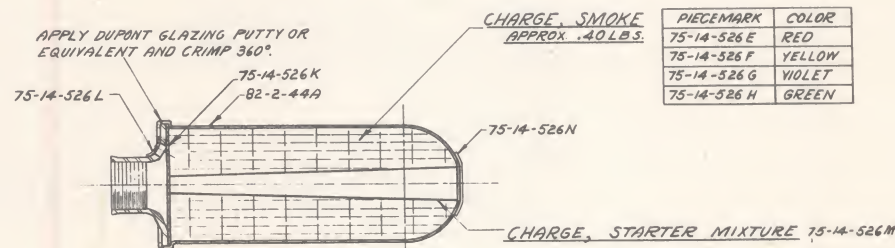


| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------------|----------------|
| 1 | SHELL LOADING ASSEMBLY | 75-14-472 |
| 2 | METAL PARTS ASSEMBLY | 75-2-353 |
| 3 | | |
| 4 | | |

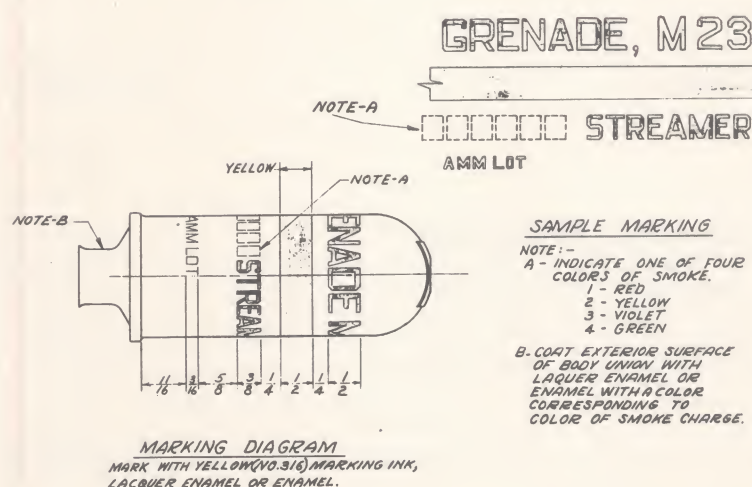
STANDARDIZED BY OCM 27443 APRIL 26, 1946

SHELL, HEAT, 57MM, M307A1
LOADING ASSEMBLY & MARKING DIAGRAM

| OCT. 24, 1944 | CLASS | DIVISION | DRAWING | FILE |
|--|--------|----------|---------|----------|
| REVISIONS | 75 | 14 | 472 | |
| 1 4-15-45 | | | | |
| 2 6-20-45 | | | | |
| 3 9-20-48 | | | | |
| 4 2-8-50 | | | | |
| 5 3-4-50 | | | | |
| DRG. PERTAINS TO | | | | |
| CHECKER | EMS | TRACER | EMS | ENGINEER |
| J.A.F. | J.A.F. | J.A.F. | J.A.F. | M.T. |
| SUBMITTED | | | | |
| EXAMINED | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| J.G. Luke | | | | |
| COL, ORG. DEPT., U.S.A. | | | | |
| ORDNANCE DEPT., U.S.A. | | | | |



| LOADING ASSEMBLY | | PIECE MARK | COLOR |
|------------------|--|--------------|--------|
| + | | 75-14-526 A1 | RED |
| | | 75-14-526 B1 | YELLOW |
| | | 75-14-526 C1 | VIOLET |
| | | 75-14-526 D1 | GREEN |



SAMPLE MARKING

NOTE:-

A - INDICATE ONE OF FOUR COLORS OF SMOKE.

1 - RED

2 - YELLOW

3 - VIOLET

4 - GREEN

B - COAT EXTERIOR SURFACE OF BODY UNION WITH LACQUER ENAMEL OR ENAMEL WITH A COLOR CORRESPONDING TO COLOR OF SMOKE CHARGE.

COVER CHARGE 75-14-526K

WOOL BUNTING (IMPREGNATED)

DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.

SEALING BODY 75-14-526N1

PLASTER ADHESIVE (WATERPROOF)

PATCH SEALING 75-14-526L

PLASTER ADHESIVE (WATERPROOF)

CLASSIFICATION CHANGED TO UNCLASSIFIED BY AUTHORITY OF OCM 28152, BN LT. COL. [Signature] AUGUST 15, 1945

| LIST OF PARTS | | | | | | | | | |
|---------------|-------------------------------------|----------------------------|------------|--------------|-----------------------------|-----------------|----------------------|------------------------------|---------|
| LINE NO. | NAME OF PART | NUMBER REQD. PER COMPONENT | PIECE MARK | SIZE OR FORM | MATERIAL | GRADE | SPECIFICATION NUMBER | APPROX. UNIT WEIGHT (POUNDS) | REMARKS |
| 1 | LOADING ASSEMBLY | | SEE TABLE | | | | AKS-1290 | .76 | (C) |
| 2 | METAL PARTS ARRANGEMENT AND DETAILS | 1 | 82-2-44A | | | | | .36 | (C) |
| 3 | CHARGE, SMOKE | 1 | SEE TABLE | | | | | .40 | (C) |
| 4 | | | | | | | | | |
| 5 | CHARGE, STARTER MIXTURE | | 75-14-526M | | | | | | (C) |
| 6 | | | | | | | | | |
| 7 | COVER, CHARGE | 1 | 75-14-526K | SHEET | WOOL BUNTING (IMPREGNATED) | | CCC-B-801 | | (b)(C) |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | PATCH SEALING | 5 | 75-14-526L | SHEET | WATERPROOF ADHESIVE PLASTER | | 197-57-258 | | (C) |
| 11 | SEALING BODY | 1 | 75-14-526N | SHEET | WATERPROOF ADHESIVE PLASTER | | 197-54-258 | | (C) |
| 12 | | | | | PUTTY, GLAZING | DUPONT OR EQUIV | COMMERCIAL | | |
| 13 | | | | | INK, MARKING, YELLOW | | 36-2 | | (a)(d) |
| 14 | | | | | LACQUER ENAMEL | III | 3-162 | | (e)(f) |

(a) - ALTERNATIVE: ENAMEL, YELLOW NO. 316, GRADE I, SPEC. 3-162 OR LACQUER ENAMEL, YELLOW NO. 316, GRADE I, SPEC. 3-67.

(b) - ALTERNATIVE: SHEETING, COTTON, UNBLEACHED, WIDE (IMPREGNATED) SPEC. CCC-S-291 (C).

(c) - SPECIFICATIONS FURNISHED BY CHEMICAL WARFARE SERVICE.

(d) - COLOR YELLOW NO. 316, COLOR CARD SUPPLEMENT TO SPEC. 3-1.

(e) - ALTERNATIVE: ENAMEL, GRADE III, SPEC. 3-67.

(f) - COLOR AS APPLICABLE (SEE NOTE-B).

| LINE NO. | LIST OF SPECIFICATIONS | SPECIFICATION NUMBER * | REQUIRED BY |
|----------|---|------------------------|----------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-14-526 |
| 2 | | | |
| 3 | ENAMEL, LUSTRELESS, QUICK DRYING | 3-67 | DRG. 75-14-526 |
| 4 | | | |
| 5 | INK, MARKING | 36-2 | DRG. 75-14-526 |
| 6 | | | |
| 7 | LACQUER ENAMEL, LUSTRELESS | 3-162 | DRG. 75-14-526 |
| 8 | | | |
| 9 | PAINTS AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | 3-162 |
| 10 | | | |
| 11 | | | |
| 12 | SHEETING, COTTON, UNBLEACHED, WIDE | CCC-S-291 | DRG. 75-14-526 |
| 13 | WOOL BUNTING | CCC-B-801 | DRG. 75-14-526 |
| 14 | WATERPROOF ADHESIVE PLASTER | (C) 197-54-258 | DRG. 75-14-526 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------|----------------|
| 1 | LOADING ASSEMBLY | 75-14-526 |
| 2 | METAL PARTS | 82-2-44 |
| 3 | | |
| 4 | | |

STANDARDIZED BY OCM 28152 JUNE 28, 1945

GRENAD, RIFLE, SMOKE, COLORED, STREAMER, M23

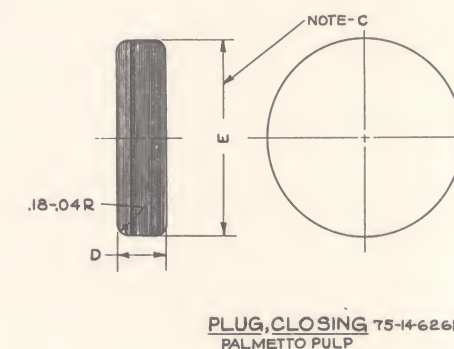
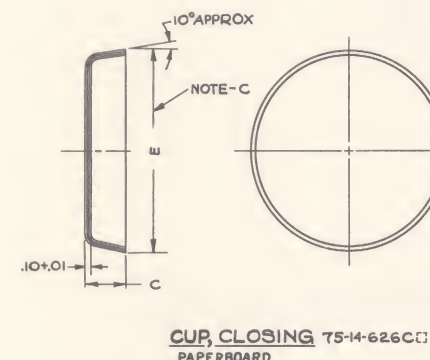
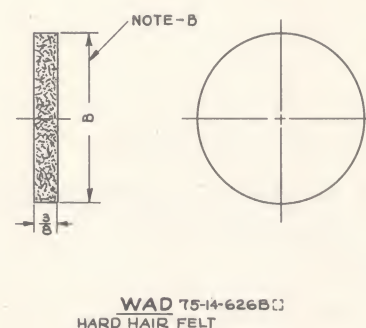
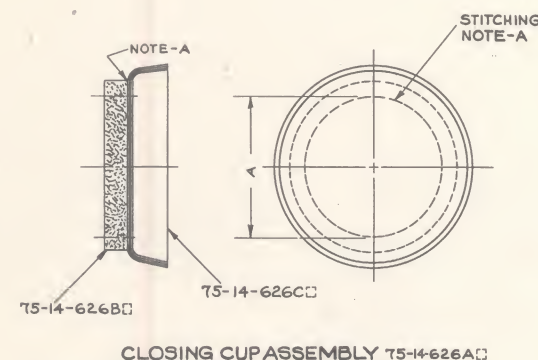
LOADING ASSEMBLY & MARKING DIAGRAM

| APRIL 27, 1945 | CLASS | DIVISION | DRAWING | FILE |
|--|---------|----------|----------|------|
| REVISIONS | 75 | 14 | 526 | |
| 1 8-15-45 | | | | |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMAL: ± | | | | |
| FRACTIONAL: ± | | | | |
| ANGULAR: ± | | | | |
| DRG. PERTAINS TO | CHECKED | TRACED | ENGINEER | |
| 82-0-139 | C.W.F. | C.W.F. | W.F. | |
| SUBMITTED | | | | |
| EXAMINED | | | | |
| APPROVED: C.S. Reed, LT. COL., ORD. DEPT. U.S.A. | | | | |
| ORDNANCE DEPT., U.S.A. | | | | |

| LIST OF PARTS | | | | | | | | | |
|---------------|----------------------|----------------------------|-----------------------|--------------|----------------------------|------------------------|--------------|----------------------------------|--|
| LINE NO | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECEMARK (SEE TABLE) | MATERIAL | | | SPEC. NUMBER | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WT OF RAW STOCK PER 1000 ASSEMBLIES |
| | | | | SIZE OR FORM | KIND | GRADE | | | |
| 1 | CLOSING CUP ASSEMBLY | | | | | | | | |
| 2 | CUP, CLOSING | 1 | | SHEET | PAPERBOARD | | 50-11-85 | | |
| 3 | WAD | 1 | | SHEET | HARD HAIR FELT | | 33-6 | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | PLUG, CLOSING | 1 | | | PALMETTO PULP | | AXS-970 | | |
| 7 | | | | | | | | | |
| 8 | | | | 4 PLY | THREAD, COTTON, UNBLEACHED | TYPE 1A1 TICKET NO. 12 | VT-276 | | |
| 9 | | | | | | | | | |
| 10 | | | | | CEMENT, PETTMAN | | JAN-C-99 | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|--|--------------|---------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR | 50-0-1 | DRG 75-14-626 |
| 2 | CEMENT, PETTMAN | JAN-C-99 | DRG 75-14-626 |
| 3 | | | |
| 4 | CUPS, CLOSING, FOR BLANK AMMUNITION | 50-11-85 | DRG 75-14-626 |
| 5 | FELT, HAIR, HARD (FOR BLANK AMMUNITION) | 33-6 | DRG 75-14-626 |
| 6 | PAPER, GENERAL, SPECIFICATIONS FOR | UU-P-31 | DRG 75-14-626 |
| 7 | PLUGS, CLOSING, FOR CARTRIDGE CASES | AXS-970 | DRG 75-14-626 |
| 8 | | | |
| 9 | THREAD, COTTON | V-T-276 | DRG 75-14-626 |
| 10 | | | |
| 11 | STITCHES; SEAMS; AND STITCHING | DDD-3-T51 | DRG 75-14-626 |
| 12 | | | |

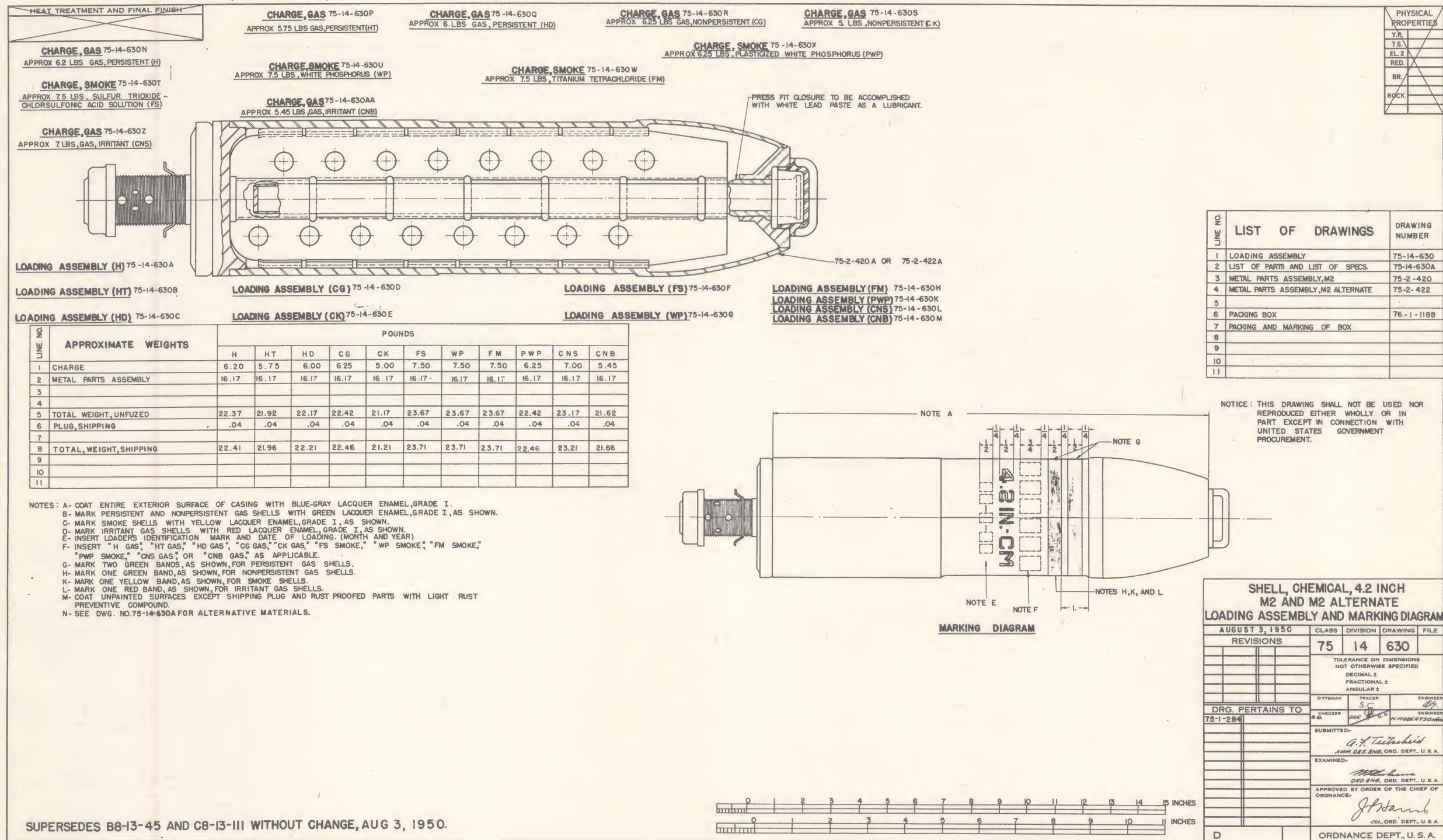
* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



NOTES:-
A- WAD TO BE SECURED TO UNDER SIDE OF CLOSING CUP WITH PETTMAN CEMENT. CEMENT MUST BE THOROUGHLY DRIED BEFORE ASSEMBLY INTO CARTRIDGE CASE. ALTERNATIVE:- WAD TO BE SECURED TO UNDER SIDE OF CLOSING CUP BY STITCHING AS SHOWN WITH A 4 PLY UNBLEACHED COTTON THREAD WITH FROM 4 TO 6 STITCHES PER INCH. STITCHING TYPE 301.
B- THE DIAMETER DIMENSION CONTROLS TOOL MANUFACTURE.
C- THE DIAMETER OF THE CUP OR PLUG MUST BE SUCH THAT ITS RIM WILL NOT SHEAR, FRACTURE OR CHIP AT THE EDGES WHEN FORCED THROUGH A RING GAGE HAVING AN INSIDE DIAMETER DIMENSION G, (SEE TABLE) WITH ENTERING EDGE OF THE GAGE CHAMFERED 45°X.02 INCH. WHEN CLOSING CUP 75-14-626C IS SEATED WITHOUT PRESSURE ON THE TOP OF GAGE CUP MUST PROTRUDE NOT LESS THAN 1/4 INCH ABOVE TOP SURFACE OF GAGE.

| CALIBER | TABLE OF DIMENSIONS AND PIECEMARKS | | | | | | | | | |
|---------|------------------------------------|-------------|-------------|---------------|--------------|---------|---------------|----------|-------------|-------------|
| | CLOSING CUP ASSEM | | WAD | | CUP, CLOSING | | PLUG, CLOSING | | G IN NOTE-C | DIMENSION E |
| | PIECEMARK | A | PIECEMARK | B | PIECEMARK | C | PIECEMARK | D | | |
| 37 MM | 75-14-626AA | — | 75-14-626BA | 1 1/16 - 1/16 | 75-14-626CA | .50-.02 | 75-14-626DA | .77-.02 | 1.86 | 1.885-.010 |
| 75 MM | 75-14-626AB | 2 1/8 - 1/4 | 75-14-626BB | 2 3/8 - 1/16 | 75-14-626CB | .6-.1 | 75-14-626DB | .77-.02 | 3.05 | 3.080-.020 |
| 76 MM | 75-14-626AC | 2 1/8 - 1/4 | 75-14-626BC | 2 3/8 - 1/16 | 75-14-626CC | .6-.1 | 75-14-626DC | .77-.02 | 3.07 | 3.100-.020 |
| 90 MM | 75-14-626AD | 3 1/4 - 1/4 | 75-14-626BD | 4 1/4 - 1/16 | 75-14-626CD | .6-.1 | 75-14-626DD | 1.02-.02 | 4.38 | 4.400-.020 |
| 105 MM | 75-14-626AE | 3 1/8 - 1/4 | 75-14-626BE | 3 5/8 - 1/16 | 75-14-626CE | .6-.1 | 75-14-626DE | .77-.02 | 4.16 | 4.190-.020 |

| LOADING ACCESSORIES FOR BLANK AMMUNITION | | | |
|--|---|----------|---------------|
| OCT. 1, 1945 | CLASS | DIVISION | DRAWING |
| REVISIONS | 75 | 14 | 626 |
| 1 11-30-47 | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | |
| | DECIMAL 2 | | |
| | FRACTIONAL 2 | | |
| | ANGULAR 2 | | |
| DRG. PERTAINS TO | OFFICER | TRACER | GRS |
| 75-142 | A.F.H. | A.F.H. | 244 |
| 75-1-67 | CHECKER | 244 | HEAD ENGINEER |
| 75-1-107 | SUBMITTED: | 6/17/45 | |
| 75-1-154 | EXAMINED: | | |
| 75-1-155 | A.H. Ashworth | | |
| 75-1-212 | ORD. DEPT. U.S.A. | | |
| | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | |
| | G. Adelman | | |
| | ORD. DEPT. U.S.A. | | |
| D | ORDNANCE DEPT. U.S.A. | | |



| HEAT TREATMENT AND FINAL FINISH | | | | | | | | | | | |
|---------------------------------|-----------------------------------|---------------------------|-------------|--------------|--|---------|--------------|--------------------------------|--|---------|--|
| LIST OF PARTS | | | | | | | | | | | |
| LINE NO. | NAME OF PART | NUMBER REQ. PER COMPONENT | PIECE-MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT POUNDS | APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS | |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | | |
| 1 | LOADING ASSEMBLY (H) | | 75-14-630A | | | | 96-81-109 | (b) | | | |
| 2 | LOADING ASSEMBLY (HT) | | 75-14-630B | | | | 96-81-219 | (b) | | | |
| 3 | LOADING ASSEMBLY (HD) | | 75-14-630C | | | | 96-81-232 | (b) | | | |
| 4 | LOADING ASSEMBLY (CG) | | 75-14-630D | | | | 96-81-165 | (b) | | | |
| 5 | LOADING ASSEMBLY (CK) | | 75-14-630E | | | | 96-81-219 | (b) | | | |
| 6 | LOADING ASSEMBLY (FS) | | 75-14-630F | | | | 96-81-153 | (b) | | | |
| 7 | LOADING ASSEMBLY (WP) | | 75-14-630G | | | | 96-81-136 | (b) | | | |
| 8 | LOADING ASSEMBLY (FM) | | 75-14-630H | | | | 96-81-154 | (b) | | | |
| 9 | LOADING ASSEMBLY (PWP) | | 75-14-630K | | | | 96-81-160 | (b) | | | |
| 10 | LOADING ASSEMBLY (CNS) | | 75-14-630L | | | | 96-81-160 | (b) | | | |
| 11 | LOADING ASSEMBLY (CNB) | | 75-14-630M | | | | 96-81-171 | (b) | | | |
| 12 | METAL PARTS ASSEMBLY M2 | | 75-2-420A | | | | 196-81-135 | 15.50 | | | |
| 13 | METAL PARTS ASSEMBLY M2 ALTERNATE | | 75-2-422A | | | | 196-81-135 | 15.41 | | | |
| 14 | | | | | | | | | | | |
| 15 | CHARGE, GAS | I | 75-14-630N | | GAS, PERSISTENT (H) | | 96-21-2 | 6.20 | | | |
| 16 | CHARGE, GAS | I | 75-14-630P | | GAS, PERSISTENT (HT) | | | 5.75 | | | |
| 17 | CHARGE, GAS | I | 75-14-630Q | | GAS, PERSISTENT (HD) | | 96-21-40 | 6.00 | | | |
| 18 | CHARGE, GAS | I | 75-14-630R | | GAS, NON-PERSISTENT (CG) | | 96-21-3 | 6.25 | | | |
| 19 | CHARGE, GAS | I | 75-14-630S | | GAS, NON-PERSISTENT (CK) | | 196-21-32 | 5.00 | | | |
| 20 | CHARGE, SMOKE | I | 75-14-630T | | SULFUR TRIOXIDE-CHLORSULFONIC ACID SOLFS | | JAN-C-373 | 7.50 | | | |
| 21 | CHARGE, SMOKE | I | 75-14-630U | | WHITE PHOSPHORUS (WP) | | JAN-P-215 | 7.50 | | | |
| 22 | CHARGE, SMOKE | I | 75-14-630W | | TITANIUM TETRACHLORIDE (FM) | | JAN-T-357 | 7.50 | | | |
| 23 | CHARGE, SMOKE | I | 75-14-630X | | PLASTICIZED WHITE PHOSPHORUS (PWP) | | JAN-P-307 | 6.25 | | | |
| 24 | CHARGE, GAS | I | 75-14-630Z | | GAS, IRRITANT (CNS) | | 96-21-5 | 7.00 | | | |
| 25 | CHARGE, GAS | I | 75-14-630AA | | GAS, IRRITANT (CNB) | | 196-21-15 | 5.45 | | | |
| 26 | | | | | | | | | | | |
| 27 | | | | | COMPOUND, RUST PREVENTIVE | LIGHT | 2-84 | | | (e) | |
| 28 | | | | | LACQUER ENAMEL, BLUE-GRAY | I | JAN-L-73 | | | | |
| 29 | | | | | LACQUER ENAMEL, GREEN | I | JAN-L-73 | | | | |
| 30 | | | | | LACQUER ENAMEL, RED | I | JAN-L-73 | | | | |
| 31 | | | | | LACQUER ENAMEL, YELLOW | I | JAN-L-73 | | | | |
| 32 | | | | | WHITE LEAD | TYPE II | TT-W-261 | | | | |

- (a) ALTERNATIVE MATERIAL: (C) COMPOUND, RUST PREVENTIVE, THIN FILM, SPEC. AXS-673.
 (b) SEE TABLE.
 (c) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

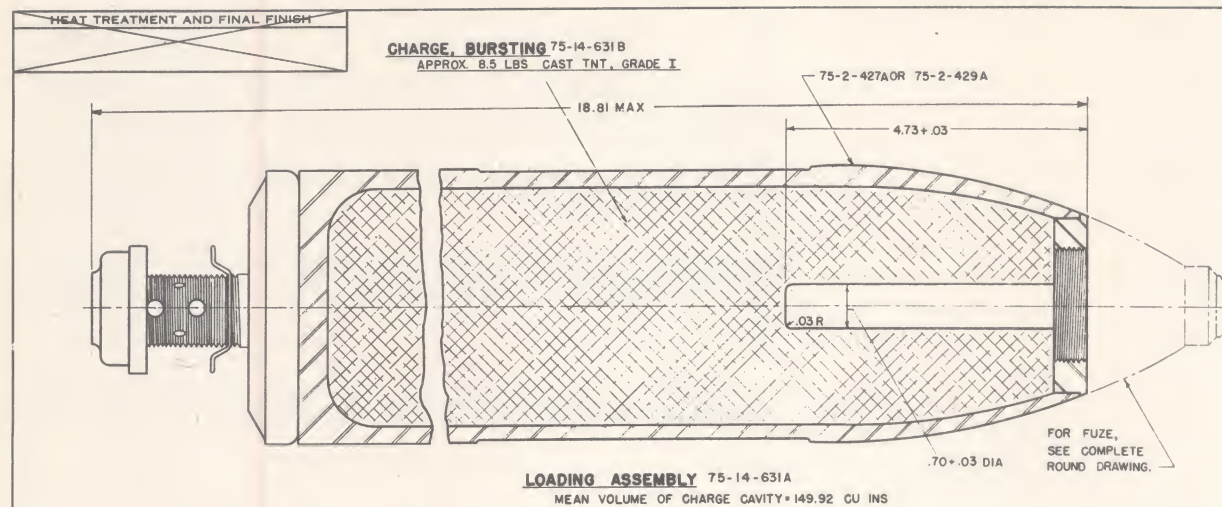
SUPERSEDES B8-13-45 AND C8-13-III WITHOUT CHANGE AUG 3, 1950.

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY | PHYSICAL PROPERTIES | |
|----------|---|--------------|---------------|---------------------|------|
| | | | | Y.P. | T.S. |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECIFICATION FOR | 50-0-1 | DWG 75-14-630 | EL 2 | |
| 2 | CHLORSULFONIC ACID-SULFURTRIOXIDE SOLUTION (FS) | JAN-C-379 | DWG 75-14-630 | RED. | |
| 3 | COMPOUND, RUST PREVENTIVE, THIN FILM | AXS-673 | DWG 75-14-630 | BR. | |
| 4 | COMPOUND, RUST PREVENTIVE, LIGHT | 2-84 | DWG 75-14-630 | ROCK. | |
| 5 | FILLING (H) | 96-21-2 | DWG 75-14-630 | | |
| 6 | | | | | |
| 7 | FILLING (HD) | 96-21-40 | DWG 75-14-630 | | |
| 8 | FILLING (CG) | 96-21-3 | DWG 75-14-630 | | |
| 9 | FILLING (CK) | 196-21-32 | DWG 75-14-630 | | |
| 10 | FILLING (CNS) | 96-21-5 | DWG 75-14-630 | | |
| 11 | FILLING (CNB) | 96-21-15 | DWG 75-14-630 | | |
| 12 | LACQUER, ENAMEL, LUSTRELESS | JAN-L-73 | DWG 75-14-630 | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | PLASTICIZED WHITE PHOSPHORUS (PWP) | JAN-P-337 | DWG 75-14-630 | | |
| 17 | TITANIUM TETRACHLORIDE (FM) | JAN-T-357 | DWG 75-14-630 | | |
| 18 | WHITE PHOSPHORUS (WP) | JAN-P-215 | DWG 75-14-630 | | |
| 19 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS; METHODS OF ETC | TT-P-141 | JAN-L-73 | | |
| 20 | WHITE LEAD, BASIC SULPHATE, PASTE-IN-OIL | TT-W-261 | DWG 75-14-630 | | |
| 21 | SHELL, 4.2 INCH CHEM MORTAR, WP FILLING | 96-81-136 | DWG 75-14-630 | | |
| 22 | SHELL, 4.2 INCH CHEM MORTAR, CG FILLING | 96-81-165 | DWG 75-14-630 | | |
| 23 | SHELL, 4.2 INCH CHEM MORTAR, CK FILLING | 96-81-219 | DWG 75-14-630 | | |
| 24 | SHELL, 4.2 INCH CHEM MORTAR, CNB FILLING | 96-81-171 | DWG 75-14-630 | | |
| 25 | SHELL, 4.2 INCH CHEM MORTAR, CNS FILLING | 96-81-166 | DWG 75-14-630 | | |
| 26 | SHELL, 4.2 INCH CHEM MORTAR, FM FILLING | 96-81-154 | DWG 75-14-630 | | |
| 27 | SHELL, 4.2 INCH CHEM MORTAR, FS FILLING | 96-81-153 | DWG 75-14-630 | | |
| 28 | SHELL, 4.2 INCH CHEM MORTAR, H FILLING | 96-81-169 | DWG 75-14-630 | | |
| 29 | SHELL, 4.2 INCH CHEM MORTAR, HD FILLING | 96-81-232 | DWG 75-14-630 | | |
| 30 | SHELL, 4.2 INCH CHEM MORTAR, HT FILLING | 96-81-229 | DWG 75-14-630 | | |
| 31 | SHELL, 4.2 INCH CHEM MORTAR, PWP FILLING | 96-81-260 | DWG 75-14-630 | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

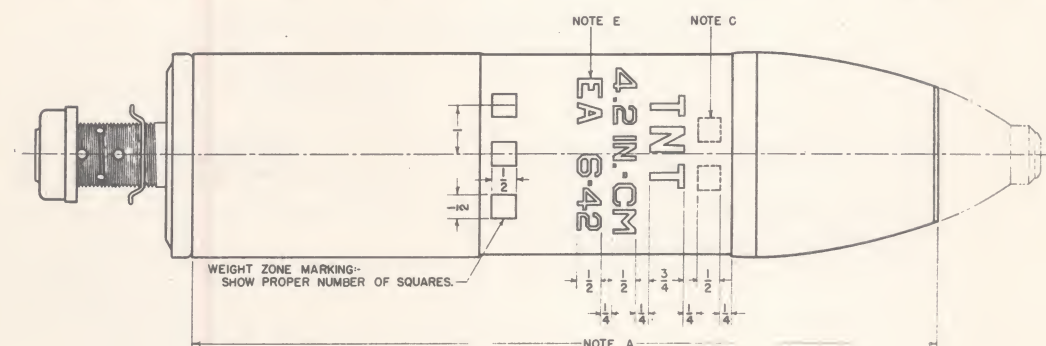
NOTICE:-THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART, EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

| SHELL, CHEMICAL, 4.2 INCH M2 AND M2 ALTERNATE LIST OF PARTS AND SPECIFICATIONS | | | | |
|--|--|---|-------------------|--------------|
| AUGUST 3, 1950 | | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | | 75 | 14 | 630A |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | | |
| DECIMAL 2 | | | | |
| FRACTIONAL 2 | | | | |
| ANGULAR 2 | | | | |
| DRG. PERTAINS TO | | D'TSMAN | TRACER | ENGINEER |
| | | CHECKER | CHK | ENGINEER |
| | | SUBMITTED: | H. ROBERTSON DRP. | |
| | | ANN. DES. ENG. ORD. DEPT. U.S.A. | | |
| | | EXAMINED: | | |
| | | ORD. ENG. ORD. DEPT. U.S.A. | | |
| | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | |
| | | COL. ORD. DEPT. U.S.A. | | |
| D | | ORDNANCE DEPT., U.S.A. | | |



| APPROX. WEIGHTS | | |
|-----------------------|--------------|---------------------------|
| PART | M3 POUNDS | M3 ALTERNATE POUNDS |
| SHELL, EMPTY | 15.28 | 15.45 |
| CHARGE, BURSTING | 8.50 | 8.50 |
| TOTAL WEIGHT, UNFUZED | 23.78 | 23.95 |

| WEIGHT ZONES | | | |
|--------------|---------------------------|-----------------------------|-------|
| ZONE | LOADED SHELL WITHOUT FUZE | | MARK |
| | OVER POUNDS | UP TO & INCLUDING POUNDS | |
| 1 | 22.3 | 22.9 | □ |
| 2 | 22.9 | 23.5 | □ □ |
| 3 | 23.5 | 24.1 | □ □ □ |
| 4 | | | |



MARKING DIAGRAM

NOTES:-

A-RETOUCH EXTERIOR SURFACES OF SHELL, WHERE PREVIOUS COATING IS DAMAGED, WITH OLIVE DRAB LACQUER ENAMEL, GRADE I. ADVISORY:- AFTER RETOUCHING, BOURRELET DIAMETER SHOULD NOT EXCEED 4.194

B-MARK WITH YELLOW LACQUER ENAMEL, GRADE I, AS INDICATED.

C-INSERT "M3" OR "M3 ALT" AS APPLICABLE.

D-APPLY RUST PREVENTIVE COMPOUND TO SURFACES WHERE PREVIOUS COATING IS DAMAGED.

E-INSERT LOADERS' INITIALS AND DATE OF LOADING (MONTH AND YEAR).

SUPERSEDES B8-13-123 WITHOUT CHANGE, AUGUST 3, 1950.

| LIST OF PARTS | | | | | | | | | |
|---------------|------------------------------------|-------------------------------|---------------|-----------------|---|-------|----------------|--|---------|
| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC NUMBER | | |
| 1 | SHELL LOADING ASSEMBLY | | 75-14-631A | | | | 96-81-220 | SEE TABLE | |
| 2 | METAL PARTS ASSEMBLY, M3 | 1 | 75-2-427A | | | | 15.28 | | |
| 3 | METAL PARTS ASSEMBLY, M3 ALTERNATE | (b) | 75-2-429A | | | | 15.45 | | |
| 4 | | | | | | | | | |
| 5 | CHARGE, BURSTING | 1 | 75-14-631B | CAST | TRINITROTOLUENE | I | JAN-T-248 | 8.50 | |
| 6 | | | | | | | | | |
| 7 | | | | | COMPOUND, RUST PREVENTIVE | LIGHT | 2-84 | | (a) |
| 8 | | | | | | | | | |
| 9 | | | | | LACQUER, ENAMEL, YELLOW | I | JAN-L-73 | | |
| 10 | | | | | LACQUER, ENAMEL, LUSTERLESS, OLIVE DRAB | I | JAN-L-73 | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |

(a) ALTERNATIVE MATERIAL-~~COMPOUND~~, RUST PREVENTIVE, THIN FILM, SPEC AXS-673

(b) ALTERNATIVE MATERIALS ARE INTENDED TO BE USED ONLY WHEN PRESCRIBED MATERIALS ARE NOT AVAILABLE.

| LIST OF SPECIFICATIONS | | | |
|------------------------|--|---------------------|----------------|
| LINE NO. | | SPEC NUMBER * | REQUIRED BY |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC FOR | 50-0-1 | DWG 75-14-631 |
| 2 | | | |
| 3 | COMPOUND, RUST PREVENTIVE, LIGHT | 2-84 | DWG 75-14-631 |
| 4 | COMPOUND, RUST PREVENTIVE, THIN FILM | AXS-673 | DWG 75-14-631 |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | LACQUER, ENAMEL, LUSTERLESS | JAN-L-73 | DWG 75-14-631 |
| 9 | | | |
| 10 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, METHODS OF INSPECTION ETC. | TT-P-141 | JAN-L-73 |
| 11 | | | |
| 12 | TRINITROTOLUENE | JAN-L-248 | DWG 75-14-631 |
| 13 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO THE BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|------------------------------------|-------------------|
| 1 | LOADING ASSEMBLY | 75-14-631 |
| 2 | METAL PARTS ASSEMBLY, M3 | 75-2-427 |
| 3 | METAL PARTS ASSEMBLY, M3 ALTERNATE | 75-2-429 |
| 4 | | |
| 5 | CONTAINER, FIBER | 76-1-1189 |
| 6 | PACKING BOX | 76-1-1188 |
| 7 | PACKING AND MARKING OF BOX | |

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

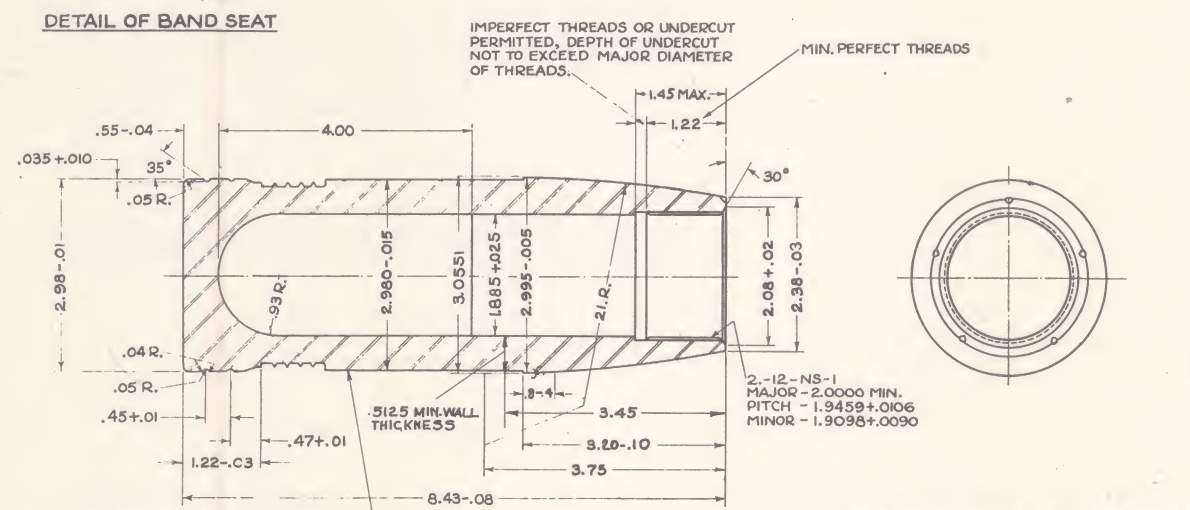
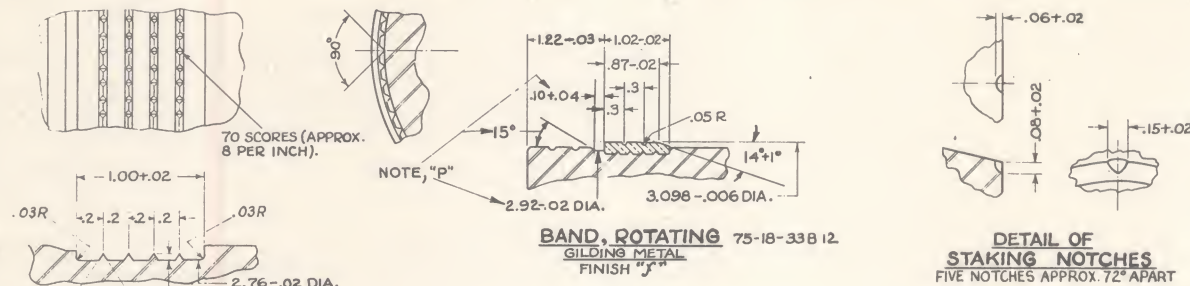
| | | | |
|--|-------|----------|--------------|
| SHELL, H.E. 4.2 INCH, M3 & M3 ALTERNATE LOADING ASSEMBLY AND MARKING DIAGRAM | | | |
| AUG. 3, 1950 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 14 | 631 |
| TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| DECIMAL 2 | | | |
| FRACTIONAL 2 | | | |
| ANGULAR 2 | | | |
| DRG. PERTAINS TO | | | |
| 75-1-285 | | | |
| SUBMITTED: | | | |
| G. T. Taiterheid | | | |
| AMM. DES. ENG., ORD. DEPT. U. S. A. | | | |
| EXAMINED: | | | |
| G. T. Taiterheid | | | |
| ORD. ENG., ORD. DEPT. U. S. A. | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | |
| G. T. Taiterheid | | | |
| COL, ORD. DEPT. U. S. A. | | | |
| ORDNANCE DEPT., U. S. A. | | | |

| LINE NO | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRE BY |
|---------|---|--------------|-------------|
| 1 | AMMUNITION EXCEPT SMALL ARMS AMM GENERAL SPEC.FOR | 50-0-1 | DRG 75-17-1 |
| 2 | | | |
| 3 | CLEANING AND PREPARATION OF METAL SURFACES | JAN-C-490 | DRG 75-17- |
| 4 | METALS; GENERAL SPECIFICATION FOR INSPECTION OF | Q Q-M-151 | QQ-5-633 |
| 5 | | | |
| 6 | PAINT, VARNISH, LACQUER AND RELATED MATERIALS, GEN SPEC | TT-P-141 | JAN-P-45 |
| 7 | PAINT, ACID-PROOF, BLACK | JAN-P-450 | DRG 75-17-1 |
| 8 | | | |
| 9 | | | |
| 10 | TRACER, T2 AND M4, LOADING, ASSEMBLY AND PACKING | AXS-1706 | DRG 75-17- |
| 11 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG 75-17- |
| 12 | STEEL, CARBON, BARS (GENERAL PURPOSE) | QQ-5-633 | DRG 75-17- |
| 13 | | | |
| 14 | | | |
| 15 | | | |

Technical drawing of a stepped shaft with the following dimensions and tolerances:

- Top diameter: $.090 \pm .005$
- Second diameter: $.185 \pm .005$
- Third diameter: $.375 \pm .005$
- Fourth diameter: $.290 \pm .005$
- Bottom diameter: $.100 \pm .005$
- Step height (between $.375$ and $.290$): $.025$ STEPS
- Step height (between $.290$ and $.100$): $.100 \pm .005$
- Step height (between $.185$ and $.090$): $.014$ MIN
- Surface texture: 16° FOR EACH STEP
- Surface texture: 16° R ONE EACH STEP

[illegible]



STAMP ON CIRCUMFERENCE OF BODY .25 FORWARD OF BAND SEAT, WITH 1/2 LETTERS AND FIGURES. LOT NUMBER YEAR OF MANUFACTURE, CALIBER, AND DESIGNATION OF SHELL

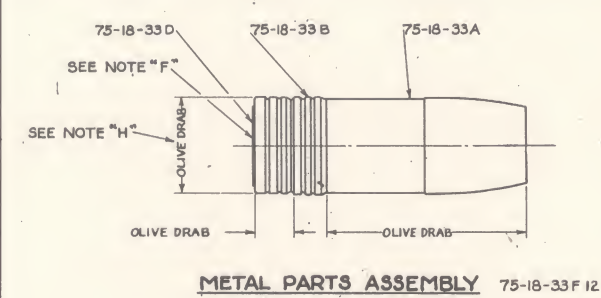
SAMPLE STAMPING:-
 75-18-33B 12 3 IN. M42A1
 LOT NUMBER YEAR OF MANUFACTURE

BODY, SHELL 75-18-33A13
 STEEL FORGING 75-20-71A
 FINISH OUTSIDE .5250 OR BETTER
 INSIDE TO BE SMOOTH AND FREE FROM SCALE

MINIMUM PHYSICAL PROPERTIES

| | |
|---------------------|---|
| YIELD STRENGTH | 65,000 $\frac{\text{LBS}}{\text{IN}^2}$ |
| ELONGATION IN 2 IN. | 15% |
| REDUCTION OF AREA | 30% |

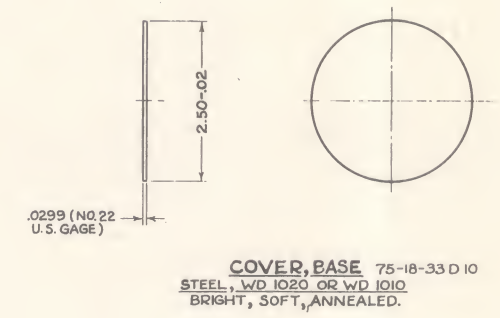
- NOTES:-
- A - MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
 - B - MEAN VOLUME OF CAVITY TO OVERFLOWING = 21.39 CU. IN.
 - C - WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES. CONTROL DIMENSION TOLERANCES TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
 - D - TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
 - E - SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINING OPERATIONS, IN ORDER TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES. THE FOLLOWING MAXIMUM ECCENTRICITIES OF CYLINDRICAL SURFACES WILL BE ACCEPTED. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING IS TWICE THE ECCENTRICITY.)
 - 1 - BETWEEN BODY (2.980±.015 DIA.) AND THREADS (2.12±.01) .015
 - 2 - BETWEEN BOURRELET (2.995±.005 DIA.) AND ROTATING BAND (3.098±.006 DIA.) WITH SHELL BODY (2.980±.015 DIA.) .006 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE).
 - 3 - BETWEEN BASE (2.98±.01 DIA.) AND BASE COVER .03
 - F - SECURE BASE COVER TO BASE OF SHELL BY OVERLAPPING SPOT WELDS AROUND EDGE OF COVER.
 - G - PAINT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE I OR II.
 - H - COAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH OLIVE DRAB LACQUER ENAMEL OR ENAMEL.
 - K - BOURRELET, AFTER PAINTING, MUST PASS A 2.997 MAX DIA RING GAGE.
 - L - REAR FACE OF ROTATING BAND SHALL BE A MAX DISTANCE OF .02 FROM REAR EDGE OF BAND SEAT.
 - M - REMOVE ALL BURRS.
 - N - DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
 - P - RELIEF GROOVE MAY BE MACHINED EITHER BEFORE OR AFTER BANDING.
 - Q - VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE SHELL TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .041



WEIGHT

| PART | POUNDS |
|---------------------|----------|
| BAND, ROTATING | .46 |
| BODY, SHELL | 9.36 |
| COVER, BASE | .04 |
| TOTAL WEIGHT, EMPTY | 9.86±.20 |

SCALE, INCHES, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{8}$



COVER, BASE 75-18-33D 10
 STEEL, WD 1020 OR WD 1010
 BRIGHT, SOFT, ANNEALED.

LIST OF DRAWINGS

| LINE NO. | DRAWING NUMBER |
|----------|--|
| 1 | METAL PARTS ASSEMBLY 75-18-33 |
| 2 | LIST OF PARTS AND LIST OF SPEC. 75-18-33A |
| 3 | FORGING FOR SHELL, H.E., 3 INCH, M42A1 75-20-71A |
| 4 | BLANKS, ROTATING BAND TYPE C 75-14-41A |

(A) DRAWING NOT MANDATORY.

SUPERSEDES OLD TRACING 75-18-33
 UNDER REVISION DATE OF DEC. 30, 1942

**SHELL, H.E., 76 MM, M42A1
 METAL PARTS ASSEMBLY
 AND DETAILS**

| | | | | |
|----------------|-------|----------|---------|------|
| AUGUST 3, 1932 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 18 | 33 | |
| 8 10-4-41 | | | | |
| 9 11-29-41 | | | | |
| 10 12-30-42 | | | | |
| 11 8-14-43 | | | | |
| 12 8-19-44 | | | | |
| 13 8-18-45 | | | | |

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED
 DECIMAL 2
 FRACTIONAL 2
 ANGULAR 2

DRG. PERTAINS TO

EXAMINED: *Am Gallagher*
 LT. COL., ORD. DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
W. H. Woodbury
 COL., ORD. DEPT. U.S.A.

ORDNANCE DEPT., U.S.A.

| LINE NO | LIST OF PARTS | | | | | | | |
|---------|----------------------|----------------------------|------------|--------------|----------------------------|------------------|-----------------------------|---------|
| | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE-MARK | MATERIAL | | | APPROXIMATE WEIGHT (POUNDS) | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NO. | |
| 1 | | | | | | | | |
| 2 | METAL PARTS ASSEMBLY | | 75-18-33F | | | | 50-30-1 | 9.86 |
| 3 | BAND, ROTATING | 1 | 75-18-33B | TUBING | GILDING METAL | | 50-27-1 | .46 |
| 4 | BODY, SHELL | 1 | 75-18-33A | FORGING | STEEL | | 57-104-2 | 9.36 |
| 5 | COVER, BASE | 1 | 75-18-33D | SHEET | STEEL | WD1020 OR WD1010 | 57-136 | .04 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | 3-106 | |
| 13 | | | | | LACQUER ENAMEL, OLIVE DRAB | I | JAN-L-73 | (2) |
| 14 | | | | | | | | |

(2) ALTERNATIVE MATERIAL :- ENAMEL, OLIVE DRAB, GRADE I, SPEC. JAN-E-74

| LINE NO | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|---------|--|----------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR | 50-0-1 | DRG. 75-18-33 |
| 2 | | | |
| 3 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG. 75-18-33 |
| 4 | CLEANING AND PREPARATION OF METAL PARTS, ETC. | AXS-12+5 | DRG. 75-18-33 |
| 5 | FORGINGS, FOR COMMON STEEL SHELL & SHRAPNEL | 57-104-2 | DRG. 75-18-33 |
| 6 | | | |
| 7 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DRG. 75-18-33 |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG. 75-18-33 |
| 12 | METALS, GENERAL SPECIFICATION FOR THE INSPECTION OF | QQ-M-151 | DRG. 75-18-33 |
| 13 | | | |
| 14 | PAINT, ACID-PROOF BLACK | 3-106 | DRG. 75-18-33 |
| 15 | PAINT AND RELATED MATERIALS, GENERAL SPEC. FOR | 3-1 | JAN-L-73 |
| 16 | | | |
| 17 | STANDARD SPECIFICATIONS FOR MARKING SHIPMENTS | 100-2 | DRG. 75-18-33 |
| 18 | SHELL, STEEL, MANUFACTURED FROM FORGINGS | 50-30-1 | DRG. 75-18-33 |
| 19 | | | |
| 20 | STEEL, SHEETS, AND STRIPS, CARBON AND ALLOY | 57-136 | DRG. 75-18-33 |
| 21 | | | |
| 22 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

SUPERSEDES OLD TRACING 75-18-33A
UNDER REVISION DATE OF AUG. 14, 1943

SHELL, H E, 76 MM, M42A1

LIST OF PARTS AND LIST OF SPECIFICATIONS.

AUGUST 3, 1932.

REVISIONS

5 10-4-41

6 11-29-41

7 8-14-43

8 8-15-45

CLASS

DIVISION

DRAWING

FILE

75

18

33A

TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED

DECIMAL ±

FRACTIONAL ±

ANGULAR ±

DFTSMAN

CHECKER

C.M.B.

J.B.

TRACER

ENGINEER

C.M.B.

DRG.

DRG. PERTAINS TO

75-18-33

SUBMITTED:

Amgallagher

MAJOR, ORD. DEPT. U.S.A.

EXAMINED:

DR. Woodbury

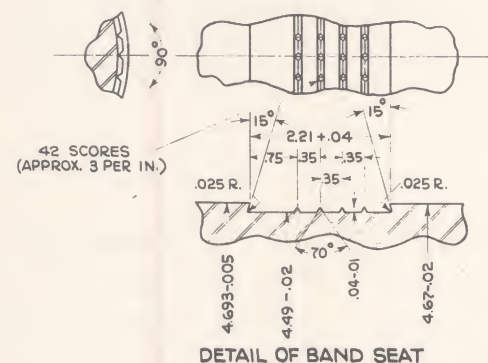
L.T. COL., ORD. DEPT. U.S.A.

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE.

COL., ORD. DEPT. U.S.A.

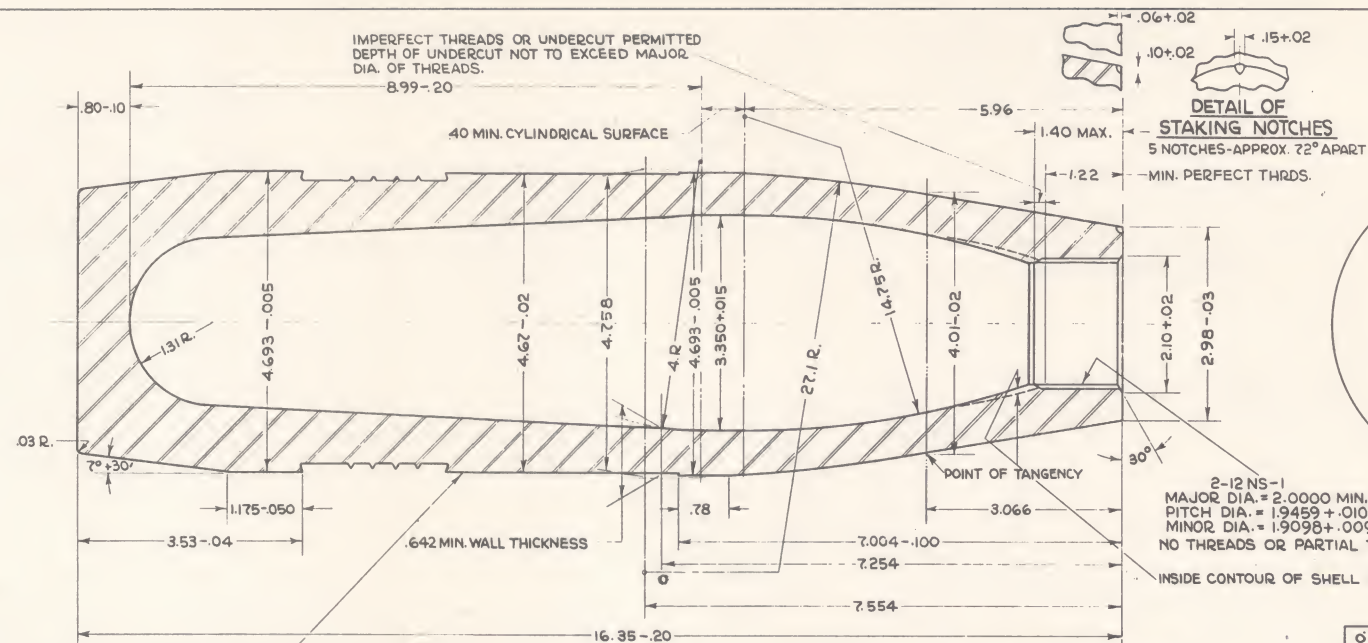
D

ORDNANCE DEPT. U.S.A.



- A- MEAN DIMENSIONS USED FOR COMPUTING WEIGHTS.
- B- MEAN VOLUME PER CAPACITY OF CIRCULOWING: 98.9 CU.IN.
- C- WEIGHT TOLERANCE NOT EQUIVALENT TO DIMENSION TOLERANCES. CONTROL DIMENSION TOLERANCE TO BRING SHELL BODY WITHIN WEIGHT TOLERANCE.
- D- TOLERANCE ON CAPACITY GOVERNED BY TOLERANCE ON DIMENSIONS.
- E- SHELL MUST BE CAREFULLY CENTERED DURING THE VARIOUS MACHINE OPERATIONS IN ORDER TO MAINTAIN CONCENTRICITY OF CYLINDRICAL SURFACES. THE FOLLOWING MAXIMUM ECCENTRICITIES OF CYLINDRICAL SURFACES WILL BE ACCEPTED: (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING ON THE DIAL IS TWICE THE ECCENTRICITY)
 - 1. BETWEEN BOOSTER SEAT THREADS AND OUTSIDE CYLINDRICAL SURFACE,.015
 - 2. BETWEEN BOOSTER SEAT AND ROTATING BAND WITH SHELL BODY,.007 (BOURRELET MUST OVERLAP BODY ON ENTIRE CIRCUMFERENCE.)
 - 3. BETWEEN BASE COVER AND BASE OF SHELL,.03

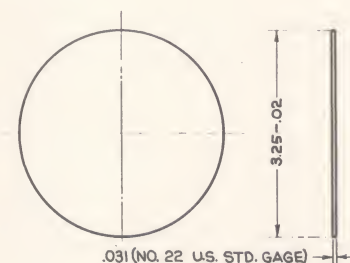
- F- VARIATION IN WALL THICKNESS IN ANY PLANE PERPENDICULAR TO THE LONGITUDINAL AXIS OF SHELL, TO THE REAR OF THE BOURRELET, SHALL NOT EXCEED .039
- G- SECURE BASE COVER TO BASE OF SHELL BY CONTINUOUS OVERLAPPING SPOT WELD OR SEAM WELD AROUND ENTIRE EDGE OF BASE COVER.
- H- PAINT INTERIOR SURFACE OF SHELL WITH ACID-PROOF BLACK PAINT, TYPE 1 OR 2.
- K- COAT ENTIRE EXTERIOR SURFACE OF SHELL, EXCEPT ROTATING BAND, WITH LACQUER, ENAMEL OR ENAMEL, OLIVE-DRAB.
- L- REAR FACE OF ROTATING BAND SHALL BE MAX DIMENSION OF $\pm .02$ FROM REAR EDGE OF BAND SEAT.
- P- DIMENSIONS FOR WHICH NO TOLERANCE IS GIVEN WILL NOT BE HABITUALLY GAGED.
- Q- REMOVE ALL BURGERS.



LOT NUMBER YEAR OF MANUFACTURE, CALIBER
AND DESIGNATION OF SHELL. SAMPLE STAMPING:-
"LOT 00-000 - 0000 - 4.7 IN, M73"
LOT NUMBER YEAR

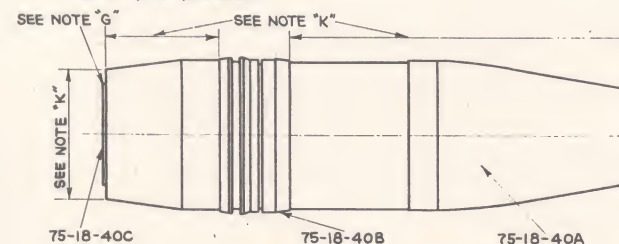
BODY, SHELL 75-18-40A7
STEEL FORGING
FINISH OUTSIDE 75-18-40A7

| | |
|----------------|--------|
| YIELD STRENGTH | 85,000 |
| ELONGATION | 12% |
| REDUCTION | 25% |



.031 (NO. 22 U.S. STD. GAGE) → ←

COVER, BASE 75-18-40C5
STEEL, WDI020 OR WDI010
BRIGHT, SOFT, ANNEALED



METAL PARTS ASSEMBLY 75-18-40E7

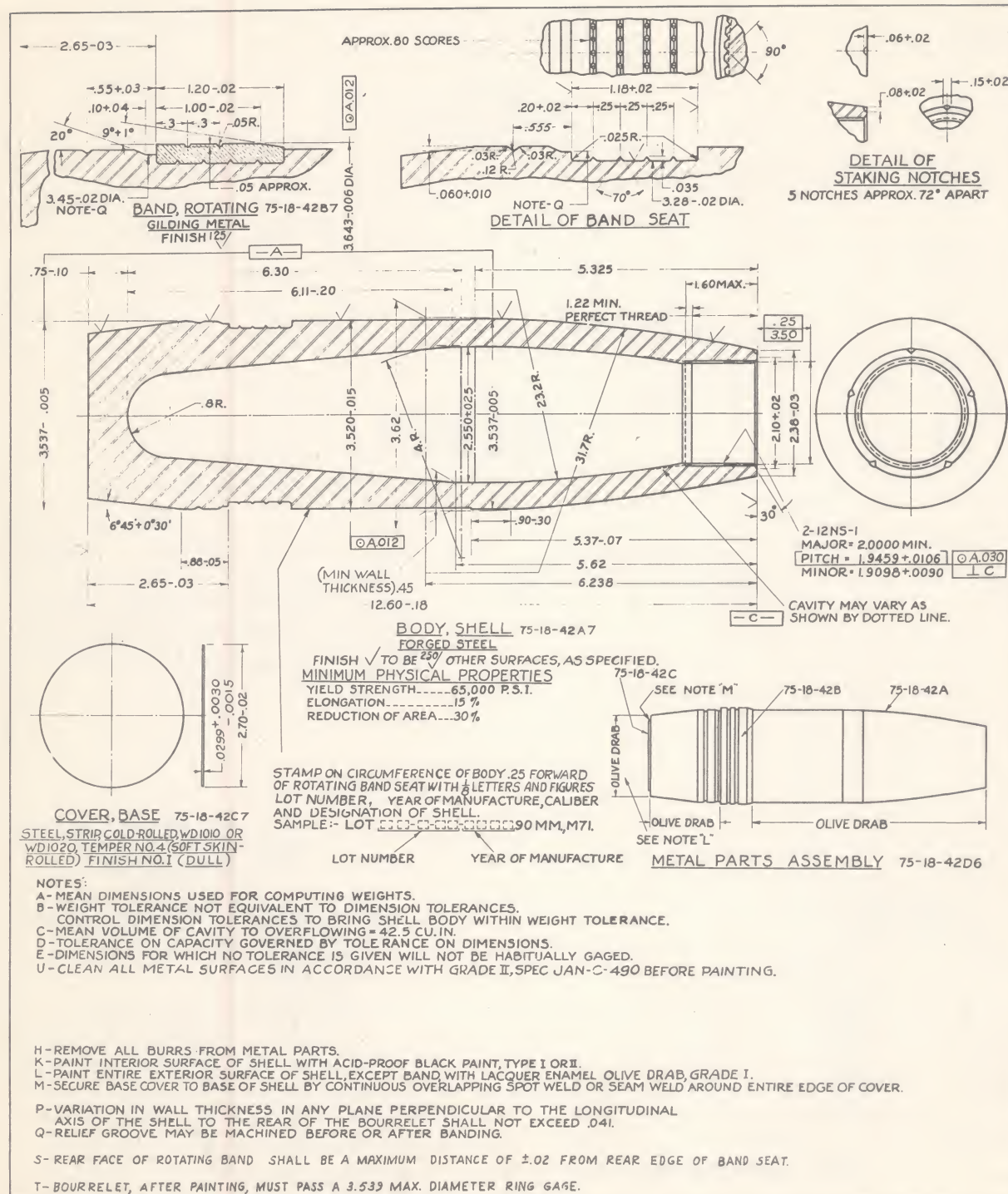
SCALE, INCHES: $\frac{1}{2}$, $\frac{1}{1}$, $\frac{2}{1}$

| DESIGN DATA | | WEIGHTS | |
|-------------------|--------|--------------------|-------------|
| PART | POUNDS | PART | POUNDS |
| BODY, SHELL | 40.48 | BODY, SHELL | 40.48 |
| BAND, ROTATING | 1.58 | BAND, ROTATING | 1.58 |
| BOOSTER, M20 | .73 | COVER, BASE | .07 |
| CHARGE (CAST TNT) | 5.26 | | |
| COVER, BASE | .07 | | |
| | | | |
| FUZE, M61 | 1.62 | | |
| | | | |
| TOTAL | 49.74 | TOTAL WEIGHT EMPTY | 42.13 ± .75 |

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---|----------------|
| 1 | METAL PARTS ASSEMBLY | 75-18-40 |
| 2 | LIST OF PARTS & LIST OF SPECIFICATIONS | 75-18-40A |
| 3 | | |
| 4 | BLANKS, ROTATING BAND FOR PROJ., TYPE 4.7 B | 75-14-41(c) |
| 5 | | |

(t) DESIGN SHOWN NOT MANDATORY

| | | | | | | | |
|---|----------|---|---------|---------------------------------------|----------|---------|------|
| SHELL, HE, 120 MM. M33 METAL PARTS ASSEMBLY AND DETAILS | | | | | | | |
| JUNE 13, 1940 | | | | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | | | | 75 | 18 | 40 | |
| 1 | 7-29-41 | 7 | 8-15-45 | TO THE EFFECT OF THE NOT OTHERWISE | | | |
| 2 | 12-8-41 | | | | | | |
| 3 | 6-9-42 | | | | | | |
| 4 | 10-22-42 | | | | | | |
| 5 | 5-27-43 | | | | | | |
| 6 | 11-1-43 | | | | | | |
| DRG. PERTAINS TO | | | | KL | RMS | HEAD | |
| | | | | 9-2-44 | | #17 | |
| | | | | REVISIONS | | | |
| | | | | Milesburg | | | |
| | | | | MAJ. | | | |
| | | | | L. A. ... | | | |
| | | | | MAJ. | | | |
| | | | | APPROVED | | | |
| | | | | DATE | | | |
| | | | | K. A. ... | | | |
| 75-14-318 | | | | LT COL. | | | |
| D | | | | ORDNANCE DEPT. U.S.A. | | | |



| LIST OF PARTS | | | | | | | | | | |
|---------------|----------------------|----------------------------------|----------------|--------------------|----------------------------|--------------|-----------------|--|--|---------|
| LINE NO. | NAME OF PART | NUMBER REQ'D PER COMPONENT | PIECE- MARK | MATERIAL | | | | APPROXIMATE UNIT WEIGHT (POUNDS) | APPROX GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
| | | | | SIZE OR FORM | KIND | GRADE | SPEC. NUMBER | | | |
| 1 | METAL PARTS ASSEMBLY | 1 | 75-18-42D | | | | 50-30-1 | 19.11 | | |
| 2 | | | | | | | | | | |
| 3 | BAND, ROTATING | 1 | 75-18-42B | TUBING | GILDING METAL | | 50-27-1 | .71 | | |
| 4 | BODY, SHELL | 1 | 75-18-42A | FORGING | STEEL | | 57-104-2 | 18.35 | | |
| 5 | COVER, BASE | 1 | 75-18-42C | SHEET | STEEL | WD1010OR1020 | 57-136 | .05 | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | LACQUER ENAMEL, OLIVE DRAB | I | JAN-L- 73 | | | (a) |
| 11 | | | | | | | | | | |
| 12 | | | | | PAINT, ACID-PROOF BLACK | TYPE I OR II | JAN-P-450 | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |

(a) ALTERNATIVE MATERIAL:-ENAMEL, OLIVE DRAB, GRADE I, SPEC. JAN-E-74

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|---------------|
| | | | |
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMMUNITION, GENERAL SPECIFICATION | 50-0-1 | DRG. 75-18-42 |
| 2 | | | |
| 3 | BLANKS, ROTATING BAND, FOR PROJECTILES | 50-27-1 | DRG. 75-18-42 |
| 4 | CLEANING AND PREPARATION OF FERROUS METAL SURFACES FOR, ETC | JAN-C-490 | DRG. 75-18-42 |
| 5 | ENAMEL, LUSTRELESS, QUICK-DRYING | JAN-E-74 | DRG. 75-18-42 |
| 6 | FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 | DRG. 75-18-42 |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | LACQUER ENAMEL, LUSTRELESS | JAN-L-73 | DRG. 75-18-42 |
| 11 | | | |
| 12 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-104-1 |
| 13 | | | |
| 14 | PAINT, ACID-PROOF BLACK FOR AMMUNITION | JAN-P-450 | DRG. 75-18-42 |
| 15 | PAINT, VARNISH, LACQUER, AND RELATED MATERIALS, METHODS OF, ETC | TT-P-141 | JAN-L-73 |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | SHELL, STEEL, MANUFACTURED FROM FORGINGS | 50-30-1 | DRG. 75-18-42 |
| 20 | SHIPMENTS, MARKING, STANDARD SPECIFICATIONS FOR | 100-2 | DRG. 75-18-42 |
| 21 | STEEL, FORGING, FOR SHELL STOCK | 57-104-1 | 57-104-2 |
| 22 | STEEL, SHEETS AND STRIPS, CARBON AND ALLOY | 57-136 | DRG. 75-18-42 |
| 23 | | | |
| 24 | | | |
| 25 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

| DESIGN DATA | | WEIGHTS | |
|----------------------|--------|---------------------|-------------|
| PART | POUNDS | PART | POUNDS |
| BODY, SHELL | 18.35 | BODY, SHELL | 18.35 |
| BAND, ROTATING | .71 | BAND, ROTATING | .71 |
| COVER, BASE | .05 | COVER, BASE | .05 |
| FUZE, M43A5 | 1.41 | TOTAL WEIGHT, EMPTY | 19.11 ± .30 |
| BOOSTER, M21A4 | .73 | | |
| CHARGE (CAST T.N.T.) | 2.04 | | |
| TOTAL WEIGHT | 23.29 | | |

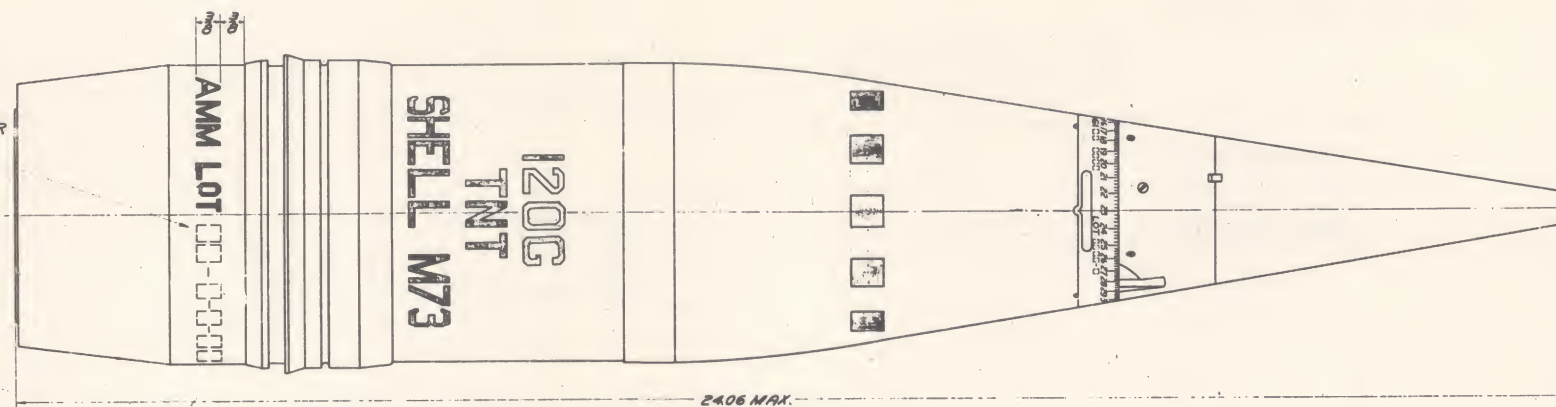
SCALE: 2 1/2

| LINE NO. | LIST OF DRAWINGS | DRAWING NUMBER |
|----------|---------------------------------------|----------------|
| | | |
| 1 | METAL PARTS ASSEMBLY | 75-18-42 |
| 2 | | |
| 3 | BLANKS, ROTATING BAND, TYPE "90A" (b) | 75-14-41 |
| 4 | | |
| 5 | FORGING FOR SHELL, H.E., 90MM, M71 | 75-20-92 |
| 6 | STANDARD FOR DIMENSIONING, ETC | 30-1-7 |

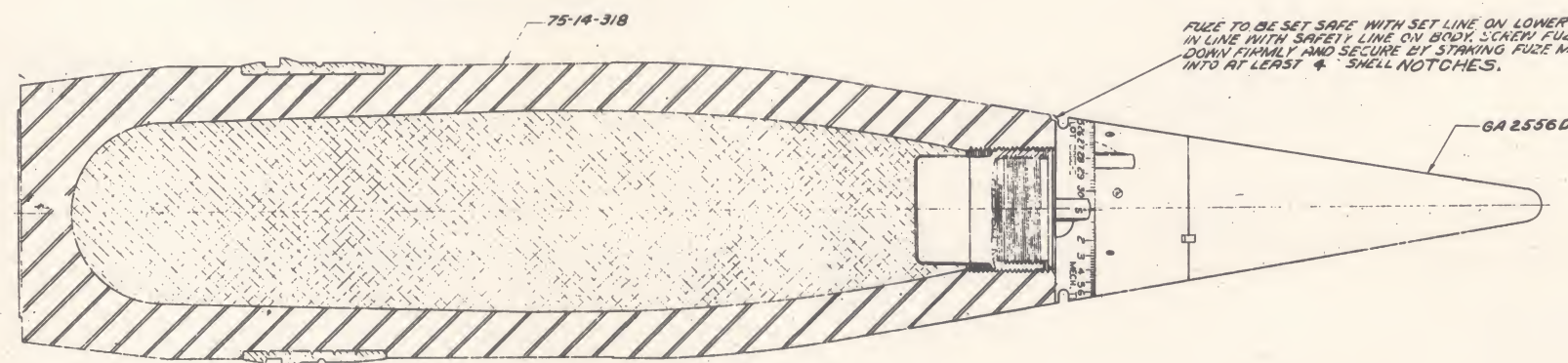
(b) DESIGN SHOWN NOT MANDATORY

| | |
|--|-----------------------------|
| SHELL, H.E., 90MM, M71. METAL PARTS ASSEMBLY, AND DETAILS. | |
| JUNE 14, 1941 | CLASS DIVISION DRAWING FILE |
| REVISIONS | 75 18 42 |
| 1 8-27-41 | 7 12-15-49 |
| 2 12-18-41 | |
| 3 9-14-42 | |
| 4 6-5-43 | |
| 5 10-25-44 | |
| 6 8-15-45 | |
| DRG. PERTAINS TO | |
| CHECKER | KL |
| OFFICER | KL |
| TRACER | KL |
| ENGINEER | KL |
| SUBMITTED | |
| EXAMINED | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | |
| ORDNANCE DEPT., U.S.A. | |

PAINT OVER SHELL LOT NUMBER, WITH OLIVE DRAB ENAMEL, THEN MARK AMM LOT NUMBER (INCLUDING LOADER'S INITIALS OR SYMBOL) WITH YELLOW MARKING INK.



MARKING DIAGRAM

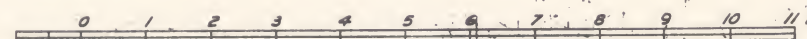


ASSEMBLY 75-16-40A2

LIST OF COMPONENTS, ETC.

| LINE NO. | NAME OF COMPONENT | DRAWING NUMBER OR REFERENCE | SPEC. | WEIGHT (POUNDS) | REMARKS |
|----------|--|-----------------------------|---------|-----------------|---------|
| 1 | ASSEMBLY | 75-16-40A | | 42.77 | |
| 2 | | | | | |
| 3 | BOX, PACKING | 76-1-421 | 100-22 | 20.00 | |
| 4 | | | | | |
| 5 | CONTAINER, FIBER, MBCA1 | PIF-18 | 50-61-3 | 5.10 | |
| 6 | | | | | |
| 7 | FUZE, MECHANICAL TIME, M61A1 BOOSTER, M21A4 | GA2556 | | 2.38 | |
| 8 | INK, MARKING, BLACK | | 36-2 | | |
| 9 | ENAMEL, OLIVE DRAB, GRADE I | | 9-67 | | (b) |
| 10 | | | | | |
| 11 | PACKING AND MARKING OF PACKING BOX | 20-4-312 | 100-2 | | |
| 12 | PACKING AND MARKING OF FIBER CONTAINER | 75-14-344 | 100-2 | | |
| 13 | | | | | |
| 14 | SHELL, H.E. 120-MM., M73, LOADING ASSEMBLY | 75-14-318 | 50-15-5 | 41.39 | |
| 15 | SHELL, H.E. 120-MM., M73, METAL PARTS ASSEMBLY | 75-18-40 | 50-30-1 | 42.13 | |
| 16 | SHELL AS FIRED | 75-15-0E | | 43.96 | |
| 17 | | | | | |

(b) ALTERNATIVE MATERIAL - LACQUER ENAMEL, OLIVE DRAB, GRADE I, SPEC 3-162



SHELL, H.E. M73, W/ FUZE, M61A1, FOR 120-MM GUN. ASSEMBLY AND MARKING DIAGRAM.

APRIL 25, 1942

| REVISIONS | CLASS | DIVISION | DRAWING | FILE |
|------------|-------|----------|---------|------|
| 1 10-25-42 | 75 | 18 | 48 | |
| 2 8-15-45 | | | | |

SYMBOL

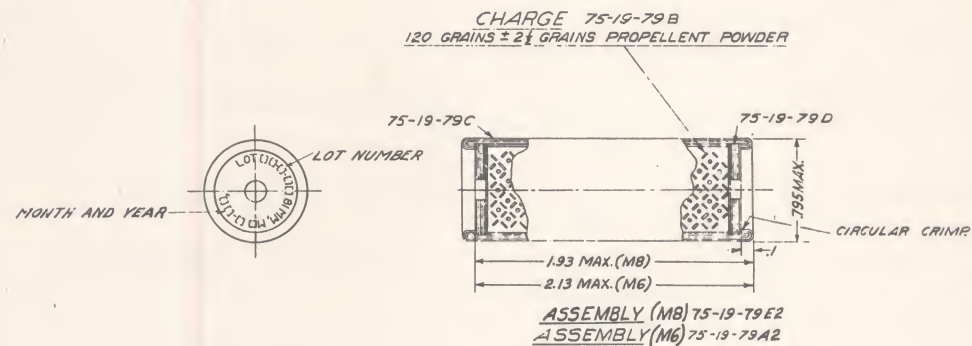
DRG. PERTAINS TO

SUBMITTED

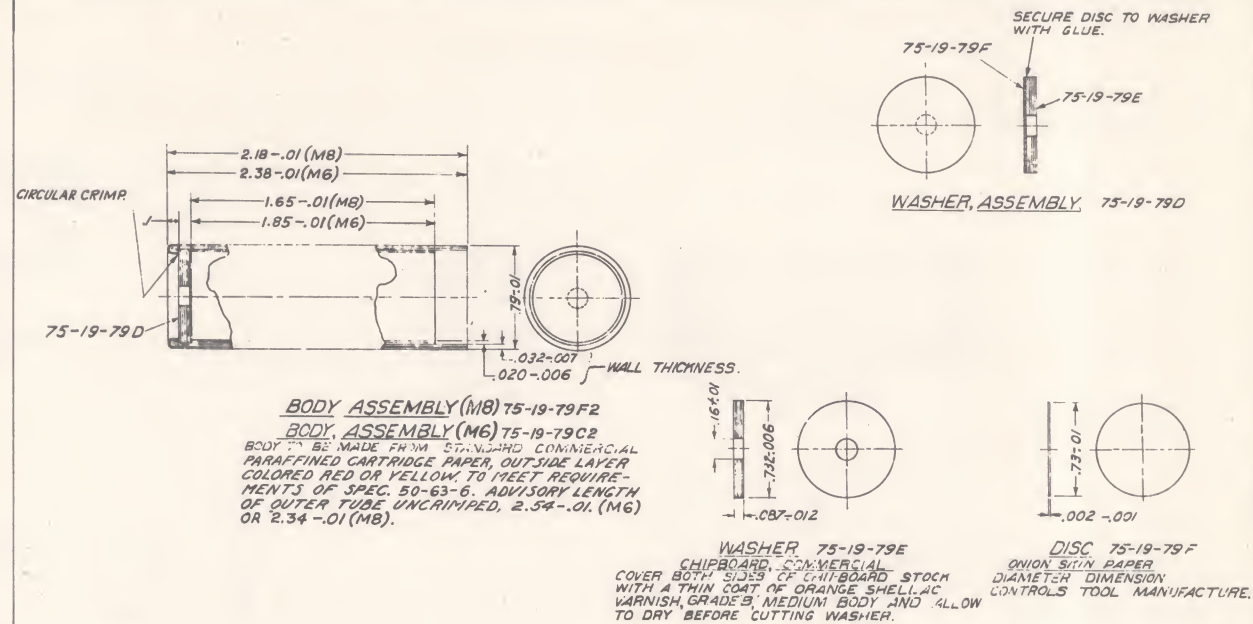
EXAMINED

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE

ORDNANCE DEPT. U. S. A.



NOTES: A. STAMP ONE WASHER PER ASSEMBLY WITH $\frac{1}{8}$ (APPROXIMATELY) LETTERS AND FIGURES, LOT NUMBER (INCLUDING INITIALS OR SYMBOL OF LOADER) 81MM, M6, OR M8 AS APPLICABLE, AND DATE (MONTH AND YEAR) OF LOADING. USE BLACK MARKING INK.
B. SPRAY CRIMPED ENDS OF CARTRIDGE WITH NITROCELLULOSE LACQUER.



LIST OF PARTS

| LINE NO. | NAME OF PART | NUMBER REQD. PER COMPONENT | PIECE-MARK | SIZE OR FORM | MATERIAL | KIND | GRADE | SPEC. NUMBER | APPROXIMATE WEIGHT (GRAINS) | APPROX. GROSS WT. OF RAW STOCK PER 1000 ASSEMBLIES | REMARKS |
|----------|--------------------|----------------------------|------------|--------------|----------------------------|---------|-------|--------------|-----------------------------|--|---------|
| 1 | ASSEMBLY (M8) | | 75-19-79E | | | | | | | | |
| 2 | ASSEMBLY (M6) | | 75-19-79A | | | | | | | | |
| 3 | WASHER, ASSEMBLY | | 75-19-79D | | | | | | | | |
| 4 | BODY ASSEMBLY (M8) | | 75-19-79F | | CARTRIDGE PAPER | | | 50-63-6 | | | |
| 5 | CHARGE | 1 | 75-19-79B | | PROPELLANT POWDER | | | 50-12-5 | 120. | | |
| 6 | DISC | 2 | 75-19-79F | SHEET | ONION SITION PAPER | | | 50-11-49 | | | |
| 7 | BODY ASSEMBLY (M6) | | 75-19-79C | | CARTRIDGE PAPER | | | 50-63-6 | | | |
| 8 | WASHER | 2 | 75-19-79E | SHEET | CHIPBOARD | | | COMMERCIAL | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | GLUE | | | 3-102 | | | |
| 11 | | | | | INK, MARKING, BLACK | | | 36-2 | | | |
| 12 | | | | | VARNISH, SHELLAC, ORANGE | GRADE B | | TT-V-91 | | | |
| 13 | | | | | LACQUER, CELLULOSE NITRATE | CLEAR | | 3-158 | | | |
| 14 | | | | | | | | | | | |

LIST OF SPECIFICATIONS

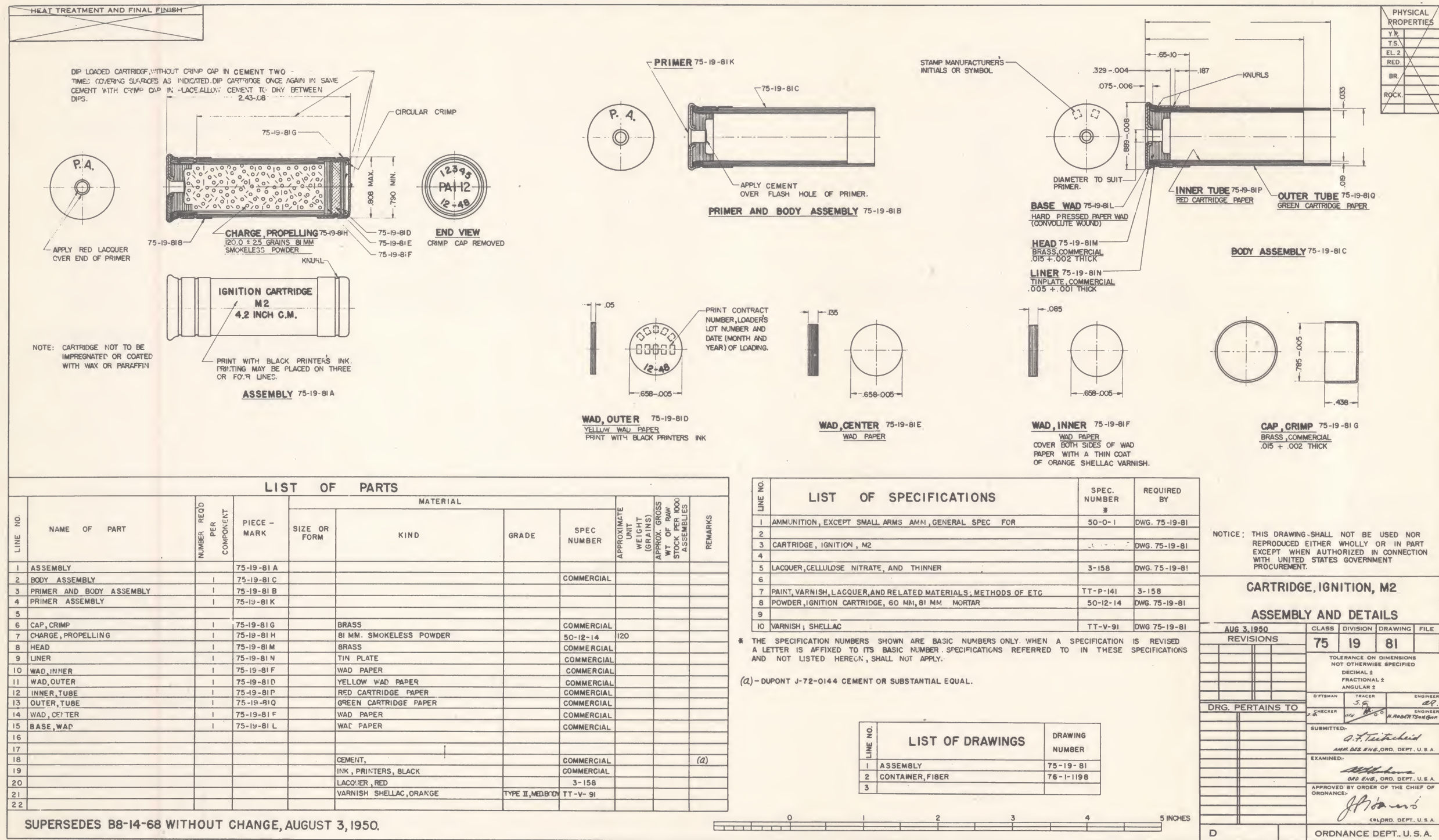
| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|--------------|---------------|
| 1 | 50-0-1 | DRG. 75-19-79 |
| 2 | 50-63-6 | DRG. 75-19-79 |
| 3 | | |
| 4 | 3-102 | DRG. 75-19-79 |
| 5 | 36-2 | DRG. 75-19-79 |
| 6 | | |
| 7 | UU-P-31 | 50-11-49 |
| 8 | 50-11-49 | DRG. 75-19-79 |
| 9 | 50-12-5 | DRG. 75-19-79 |
| 10 | | |
| 11 | 3-159 | DRG. 75-19-79 |
| 12 | TT-V-91 | DRG. 75-19-79 |
| 13 | | |
| 14 | | |

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(t)-THESE SPECIFICATIONS ARE NOT MANDATORY BUT MAY BE USED BY THE CONTRACTOR.

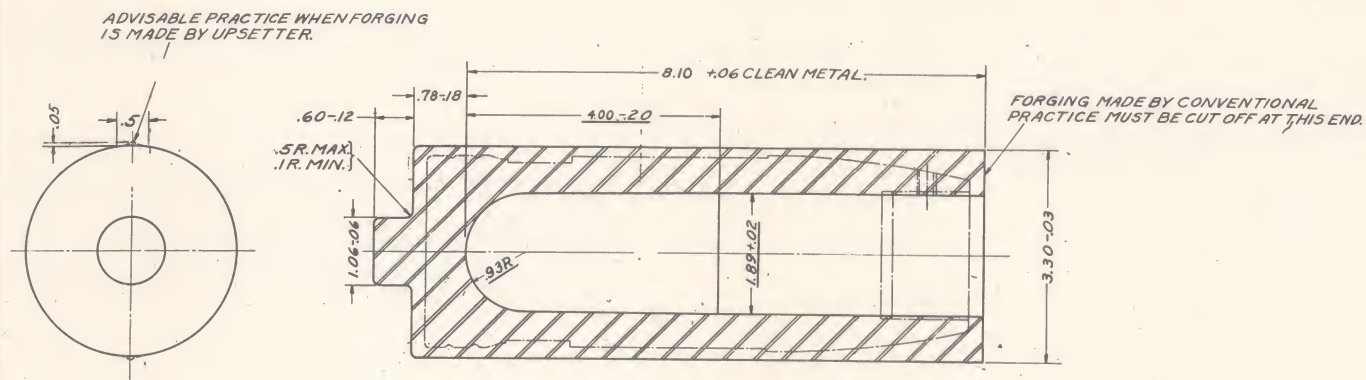
CARTRIDGE, IGNITION, M6 & M8, FOR 81MM, MORTAR, M1, AMMUNITION. ASSEMBLY AND DETAILS.

| | | | | |
|--|---------|----------|---------|---------|
| APRIL 2, 1941 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 19 | 79 | |
| 1 6-2-41 | | | | |
| 2 6-5-45 | | | | |
| SYMBOL | | | | |
| DRG. PERTAINS TO | CHECKER | CHECKER | CHECKER | CHECKER |
| | J.M.H. | J.F.R. | | |
| | A.S. | | | |
| SUBMITTED | | | | |
| CCL, ORD DEPT U.S.A. | | | | |
| EXAMINED | | | | |
| LT. COL. ORD DEPT U.S.A. | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE | | | | |
| LT. COL. ORD DEPT U.S.A. | | | | |
| ORDNANCE DEPT., U. S. A. | | | | |

0 1 2 3 4 5 INCHES



HEAT TREATMENT & FINAL FINISH

FORGING SHELL 75-20-71A 5
STEEL

NOTES:

THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD. WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF AS SHOWN. UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY). IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

PHYSICAL PROPERTIES

YIELD STRENGTH - NOT LESS THAN 65,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15%
REDUCTION OF AREA - NOT LESS THAN 30%

FOR SHELL M42A1, SEE DRG 75-18-33

| LINE NO. | LIST OF SPECIFICATIONS. | SPEC. NUMBER | REQUIRED BY |
|----------|--|--------------|--------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM, GENERAL SPEC. FOR | 50-0-1 | DRG 75-20-71 |
| 2 | | | |
| 3 | | | |
| 4 | FORGINGS FOR COMMON STEEL SHELL & SHRAPNEL | 57-104-2 | DRG 75-20-71 |
| 5 | | | |
| 6 | | | |
| 7 | STEEL, FORGING, FOR SHELL STOCK | 57-104-1 | DRG 75-20-71 |
| 8 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-104-2 |
| 9 | | | |
| 10 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

NOTICE: THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART BY ANY PERSON AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

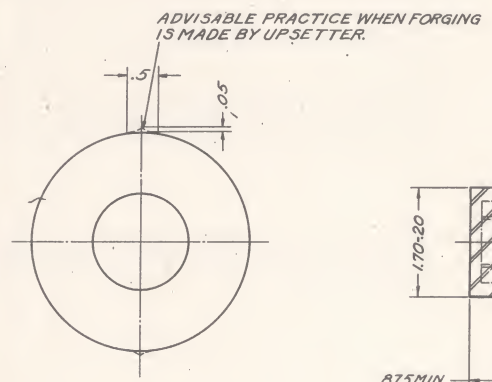
| LINE NO. | PART | POUNDS |
|----------|---------|------------|
| 1 | FORGING | 15.68 MAX. |
| 2 | | |

SUPERSEDES OLD TRACING 75-20, 7
UNDER REVISION DATE OF APR. 26, 1939.

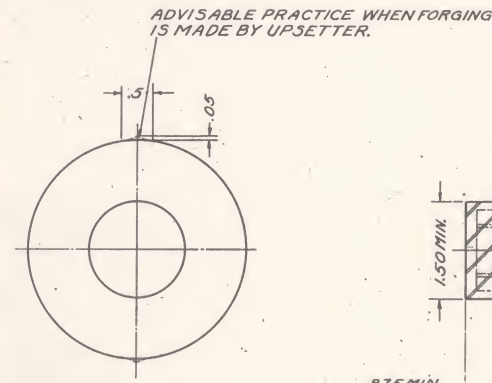
FORGING FOR SHELL
HE, 76MM, M42A1.

| | | | | |
|---|-------|----------|---------|------|
| APRIL 25, 1932. | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 20 | 71 | |
| 1 12-4-36 | 6 | 11-1-49 | | |
| 2 4-26-39 | | | | |
| 3 10-4-41 | | | | |
| 4 11-29-41 | | | | |
| 5 8-15-45 | | | | |
| DRG. PERTAINS TO | | | | |
| SUBMITTED: | | | | |
| EXAMINED: | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | |
| ORDNANCE DEPT. U.S.A. | | | | |

| |
|-------------------------------|
| HEAT TREATMENT & FINAL FINISH |
| |



FORGING, SHELL, TYPE I, 75-20-72 A8
STEEL



FORGING, SHELL TYPE II 75-20-72 B8
STEEL

NOTES:
THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD.
WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF
AS SHOWN.
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED.
DOT AND DASH LINES REPRESENT FINISHED PROJECTILE.
MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL
SURFACE .05 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF ADIAL INDICATOR, THE
TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY).

YIELD STRENGTH - NOT LESS THAN 35,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15%.
REDUCTION OF AREA - NOT LESS THAN 30%.

IF MANUFACTURER OF FORGING IS ALSO
MANUFACTURER OF THE SHELL, DIMENSIONS
OF FORGING MAY BE VARIED TO GIVE ALLOWANCES
FOR MACHINING AS REQUIRED BY HIM.

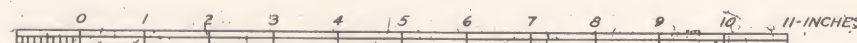
NOTICE THIS DRAWING IS
NOT TO BE USED NOR REPRODUCED
EITHER WHOLLY OR IN PART OR
COPY WHEN AUTHORIZED IN CON-
NECTION WITH UNITED STATES
GOVERNMENT PROCUREMENT.

| LINE NO. | TABLE OF WEIGHTS. | |
|----------|-------------------|---------|
| | PART | POUND. |
| 1 | FORGING, TYPE I | 6.88 MA |
| 2 | FORGING, TYPE II | 6.38 MA |
| 3 | | |

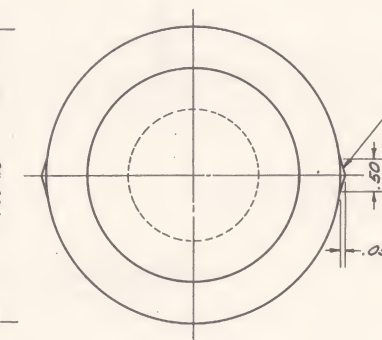
FOR SHELL SEE DRG. 75-2-261

SUPERSEDES OLD TRACING 75-20-72
UNDER REVISION DATE OF MAY 1, 1938

| | | | |
|---|----------|---|----------|
| FORGING FOR SHELL H.E. 81MM. M43AI AND SHELL, PRACTICE, M43AI: | | | |
| JULY 6, 1933 | | | |
| REVISIONS | | | |
| 1 | 10-23-36 | 6 | 5-29-41 |
| 2 | 5-1-39 | 7 | 11-27-41 |
| 3 | 5-27-40 | 8 | 8-15-45 |
| 4 | 8-26-40 | | |
| 5 | 2-7-41 | | |
| CLASS DIVISION DRAWING FILE 75 20 72 | | | |
| DFTSMAN TRACER L'DG. DFTSMAN CHECKER <i>DATA</i> CHIEF DFTSMAN H.G.T. 0% H.S.D. | | | |
| DRG. PERTAINS TO SUBMITTED: <i>Missouri</i> <i>MAJOR</i> ORG. DEPT. U.S.A. EXAMINED: <i>FRB</i> COL. ORG. DEPT. U.S.A. APPROVED BY ORDER OF THE CHIEF OF ORDNANCE <i>H. Robinson</i> LT. COL. ORG. DEPT. U.S.A. ORDNANCE DEPT. U.S.A. | | | |



* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON SHALL NOT APPLY.



RIDGES AT 180° PERMITTED
WHEN FORGING IS MADE BY
UPSETTER METHOD.

SUPERSEDES OLD TRACING 75-20-76
UNDER REVISION DATE OF MAY 25, 1939

FORGING FOR SHELL,
H.E., 105 MM, M1 AND M1B1;
CHEMICAL, 105 MM, M60

| | | | | | |
|-----------------------|--|--|----------|---------|------|
| REVISONS | | CLASS | DIVISION | DRAWING | FILE |
| 1 529-39 6 8-27-41 | | 75 | 20 | 76 | |
| 2 8-10-40 7 9-15-41 | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | | | |
| 3 11-13-40 8 10-29-41 | | | | | |
| 4 2-11-41 9 8-15-45 | | | | | |
| 5 2-15-41 | | DECIMAL 2 FRACTIONAL 2 ANGULAR 2 | | | |

TOLERANCE ON DIMENSIONS
NOT OTHERWISE SPECIFIED

DECIMAL \pm
FRACTIONAL \pm
ANGULAR \pm

| | | | | | | |
|------------------|--|--|--|---------------------|----------------------|----------|
| | | | | DFTSMAN D. S. K. | TRACER J. Yangoff | ENGINEER |
| DRG. PERTAINS TO | | | | CHECKER | | ENGINEER |

[illegible]

Milesus Alesg
HW., ORD. DEPT., U.S.

EXAMINED:- *L O Booth*

APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:

K. L. Adams
LT. COL., ORD. DEPT., U. S.

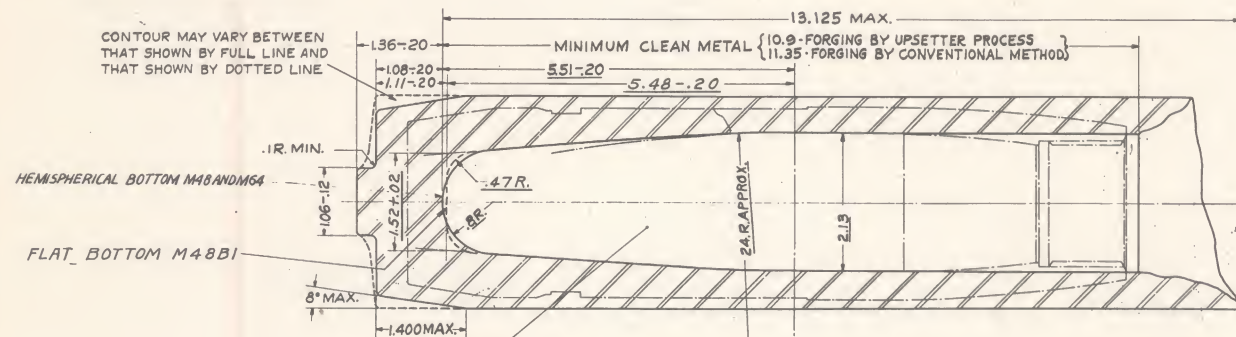
| | |
|---|-------------------------|
| D | ORDNANCE DEPT., U. S. A |
|---|-------------------------|

NOTES: UNDEFINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.) IF MANUFACTURING IS MADE IN ONE OF THE TWO DIRECTIONS OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY NIM.

FOR SHELL DRGS. SEE 75-4-75 AND 75-4-91



HEAT TREATMENT & FINAL FINISH



A TOLERANCE OF $\pm .02$ IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY.

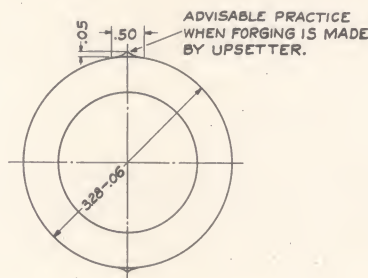
FORGING, SHELL 75-20-77 A:12
STEEL

PHYSICAL PROPERTIES OF TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL.
YIELD STRENGTH - NOT LESS THAN 63,000 LBS./SQ. IN.
ELONGATION IN 2 IN. - NOT LESS THAN 15%
REDUCTION OF AREA - NOT LESS THAN 30%

NOTES:-

UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY.) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR SHELL SEE DRG. 75-2-269 AND 75-2-294



THE FORGING WILL BE CYLINDRICAL IN SHAPE WHEN MADE BY THE CONVENTIONAL METHOD. WHEN MADE BY UPSETTER IT WILL BE CYLINDRICAL IN SHAPE EXCEPT FOR DIE RELIEF AS SHOWN

LIST OF SPECIFICATIONS

| LINE NO. | SPEC. NUMBER | REQUIRED BY |
|----------|---|------------------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 DRG. 75-20-77 |
| 2 | STEEL, FORGING FOR SHELL STOCK | 57-104-1 DRG. 75-20-77 |
| 3 | FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 DRG. 75-20-77 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 57-104-2 |
| 9 | | |
| 10 | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

TABLE OF WEIGHTS

| LINE NO. | PART | POUNDS |
|----------|---------|----------|
| 1 | FORGING | 20. MAX. |
| 2 | | |
| 3 | | |
| 4 | | |

SUPERSEDES OLD TRACING 75-20-77
UNDER REVISION DATE OF APRIL 10, 1940.

NOTICE: THIS DRAWING IS NOT TO BE USED FOR THE DESIGN OF A NEW PROJECTILE. IT IS FOR THE DESIGN OF A PROJECTILE WHICH WILL BE USED IN THE DESIGN OF A NEW PROJECTILE.

FORGING FOR SHELL,
H.E. 75 MM., M48 AND M48B1,
AND CHEM. 75MM., M64.

| | | | | |
|-----------------|-------|----------|---------|------|
| JANUARY 4, 1937 | CLASS | DIVISION | DRAWING | FILE |
| 75 | 20 | 77 | | |

REVISIONS

| | | | |
|----|---------|----|----------|
| 6 | 5-27-40 | 11 | 10-27-41 |
| 7 | 4-10-40 | 12 | 8-15-45 |
| 8 | 7-15-40 | | |
| 9 | 1-24-41 | | |
| 10 | 8-27-41 | | |

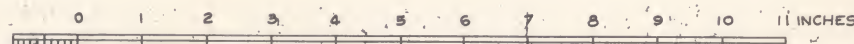
DRG. PERTAINS TO

SUBMITTED BY: *William H. H. H.*
MAJOR, ORG. DEPT. U. S. A.

EXAMINED BY: *W. H. H.*
MAJOR, ORG. DEPT. U. S. A.

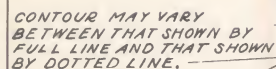
APPROVED BY ORDER OF THE CHIEF OF ORDNANCE:
R. H. H.
LT COL., ORG. DEPT. U. S. A.

ORDNANCE DEPT. U. S. A.



| |
|---------------------------------|
| HEAT TREATMENT AND FINAL FINISH |
| |

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A TOLERANCE OF ± 0.035 IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY.

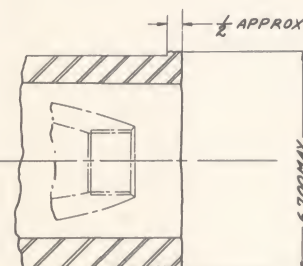
HEMISPHERICAL BOTTOM, M0000BI

FORGING, SHELL. 75-20-80A10
STEEL

TABLE OF PHYSICAL PROPERTIES, FOR TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL

| | | |
|-----------------------------------|-----------|--|
| PIECEMARK | 75-20-80A | |
| FOR SHELL | ALL | |
| YIELD STRENGTH- NOT LESS THAN | 65000 | |
| ELONGATION IN 2 IN.-NOT LESS THAN | 15% | |
| REDUCTION OF AREA-NOT LESS THAN | 30 % | |

NOTES: UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .093 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY). IF MANUFACTURED BY THE METHOD OF FORGING IS .001 INCH OR LESS OF THE SHELL, DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.



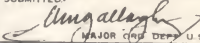
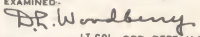

END MADE BY
UPSETTER METHOD.

| DESIGNATION | DRAWING NO. |
|---------------|-------------|
| M101 & M101B1 | 75-4-80 |
| M102 & M102B1 | 75-4-82 |
| M104 & M104B1 | 75-4-83 |
| M105 & M105B1 | 75-4-90 |
| M107 & M107B1 | 75-4-93 |
| M110 & M110B1 | 75-4-100 |

A horizontal ruler with markings from 0 to 11 inches. The markings are labeled with numbers 0 through 11, followed by the word "INCHES". The ruler is positioned at the top of the page.

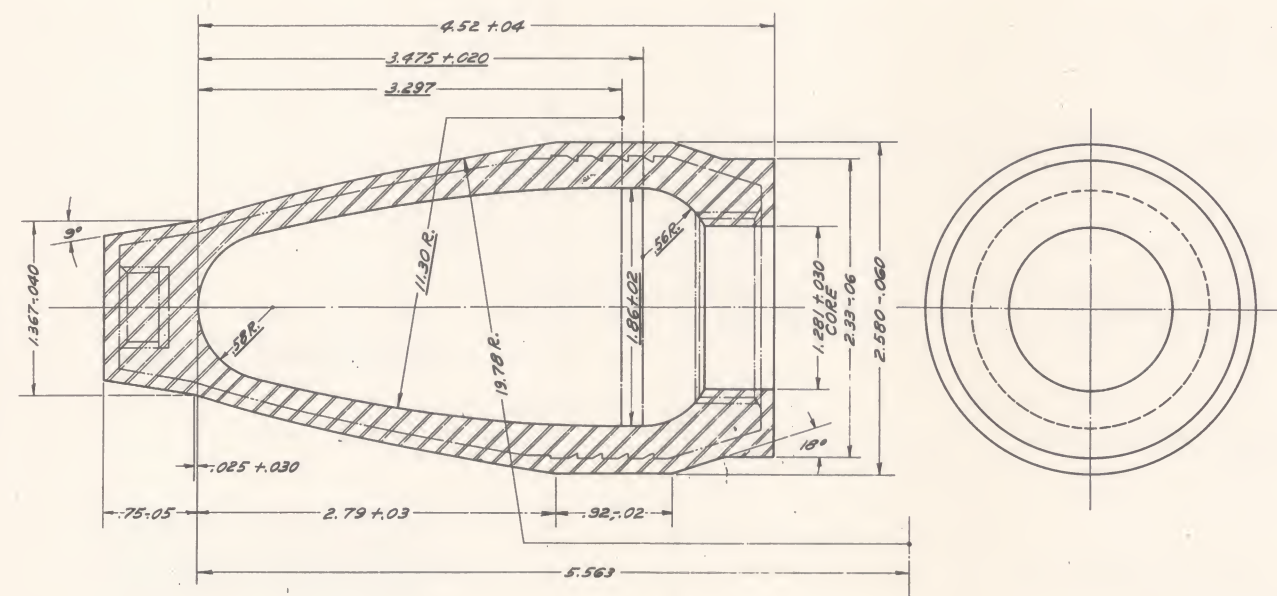
| LINE NO. | TABLE OF WEIGHTS | |
|----------|------------------|------------|
| | PART | POUNDS |
| 1 | FORGING | 154.0 MAX. |
| 2 | | |
| 3 | | |

SUPERSEDES OLD TRACING 75-20-80
UNDER REVISION DATE OF MARCH 15, 1943.

| | | | | | |
|---|--|--|--|---|------------------|
| FORGING FOR SELL, 155 MM, M101, M102, M104, M105, M103, AND M100, ETAL. | | | | | |
| MAY 18, 1983 | | | | CLASS | DIVISION |
| REVISIONS | | | | 75 | 20 |
| 9 1-2-42 | | | | DRAWING | |
| 10 3-5-43 | | | | 80 | |
| | | | | TOLERANCE ON DIMENSIONS NOT OTHERWISE SPECIFIED | |
| | | | | DECIMAL ± | |
| | | | | FRACTIONAL ± | |
| | | | | ANGULAR ± | |
| DRG. PERTAINS TO | | | | DTPERMAN J.U.T. | ENGINEER |
| | | | | CHECKER J.B. | ENGINEER J.B. |
| | | | | SUBMITTED- | |
| | | | |  MAJOR (MSG DEPT. U.S.A.) | |
| | | | | EXAMINED- | |
| | | | |  LT COL. ORD DEPT. U.S.A. | |
| | | | | APPROVED BY ORDER OF THE CHIEF OF ORDNANCE- | |
| | | | |  COL. ORD DEPT. U.S.A. | |
| D | | | | ORDNANCE DEPT. U.S.A. | |

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DRG. 75-20-83 |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | METALS, GENERAL SPECIFICATIONS FOR THE INSPECTION OF | QQ-M-151 | AXS-484 |
| 6 | SHELL, STEEL FOR SMOOTH BORE MORTARS MFG FROM STEEL CASTINGS | 50-37-3 | DRG. 75-20-83 |
| 7 | | | |

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WEIGHT OF CASTING = 2.90 POUNDS MAX.

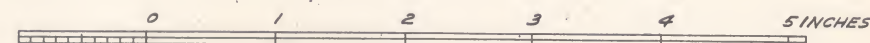
CASTING, SHELL 75-20-83A

NOTES:-

- A - MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY OF SHELL AND OUTSIDE SURFACE AT ANY POINT, .085. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING ON THE DIAL IS TWICE THE ECCENTRICITY.)
 B - CASTING TO WITHSTAND AN INTERNAL AIR PRESSURE TEST OF 250 LBS. PER SQ. IN.
 C - DOT AND DASH LINES INDICATE FINISHED SHELL.
 D - UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE MACHINED.
 E - CAVITY MUST BE FREE FROM SCALES, PITS, SEAMS, LAMINATIONS, CRACKS, BLOW HOLES, POCKETS, SAND, OR OTHER IMPERFECTIONS. THE FINISH OF THE CAVITY SURFACE MUST BE THE EQUAL OF A FINISH BORED CAVITY.
 F - CAPACITY OF CAVITY AS CAST SHALL BE 8.85 CU. IN. APPROX.
 G - IF MANUFACTURER OF CASTING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF CASTING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR DRAWING OF SHELL SEE 75-2-288

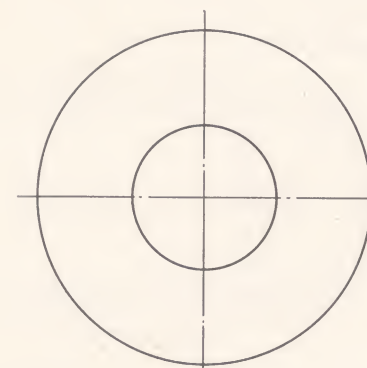
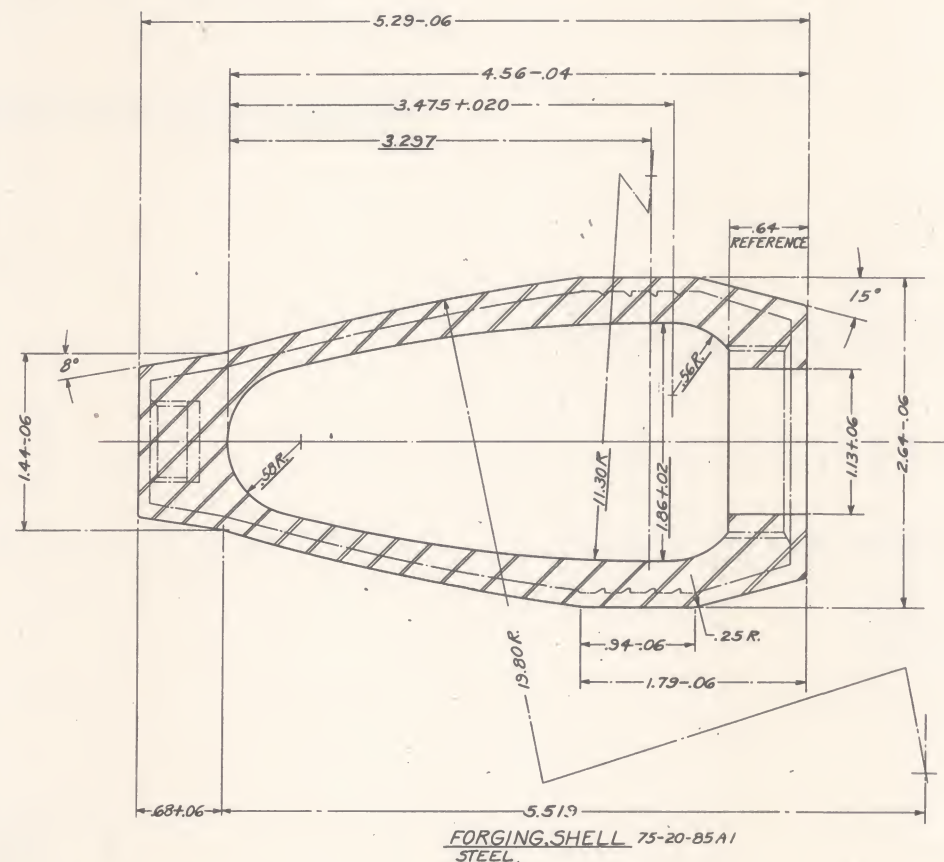
NOTICE: THIS DRAWING SHALL NOT BE USED FOR REPRODUCTION EITHER WHOLLY OR IN PART EXCEPT WHEN APPROVED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.



| | | | | |
|--|-------|----------|---------|------|
| CASTING FOR SHELL, H.E. 60MM, M49A2 AND PRACTICE 60MM, M50A2 | | | | |
| JUNE 3, 1940 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 20 | 83 | |
| 1 VI-17-41 | | | | |
| 2 8-15-45 | | | | |
| DRG. PERTAINS TO | | | | |
| SUBMITTED: | | | | |
| EXAMINED: | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | |
| ORDNANCE DEPT., U. S. A. | | | | |

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER * | REQUIRED BY |
|----------|--|----------------|--------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM., GENERAL SPEC. FOR | 50-0-1 | DR. 75-20-85 |
| 2 | | | |
| 3 | SHELL, STEEL, FOR SMOOTH BORE MORTAR, MFG. FROM FORGINGS | 50-31-1 | DR. 75-20-85 |
| 4 | STEEL FORGINGS FOR SHELL STOCK | 57-104-1 | DR. 75-20-85 |
| 5 | | | |
| 6 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 57-104-2 |
| 7 | | | |

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MAX. WEIGHT OF FORGING = 3.33 LBS.

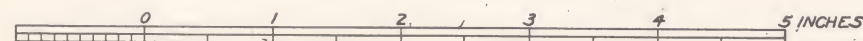
FOR SHELL, SEE DRG. 75-2-288

PHYSICAL PROPERTIES

YIELD STRENGTH NOT LESS THAN 35,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES NOT LESS THAN 15%
REDUCTION OF AREA NOT LESS THAN 30%

NOTES:

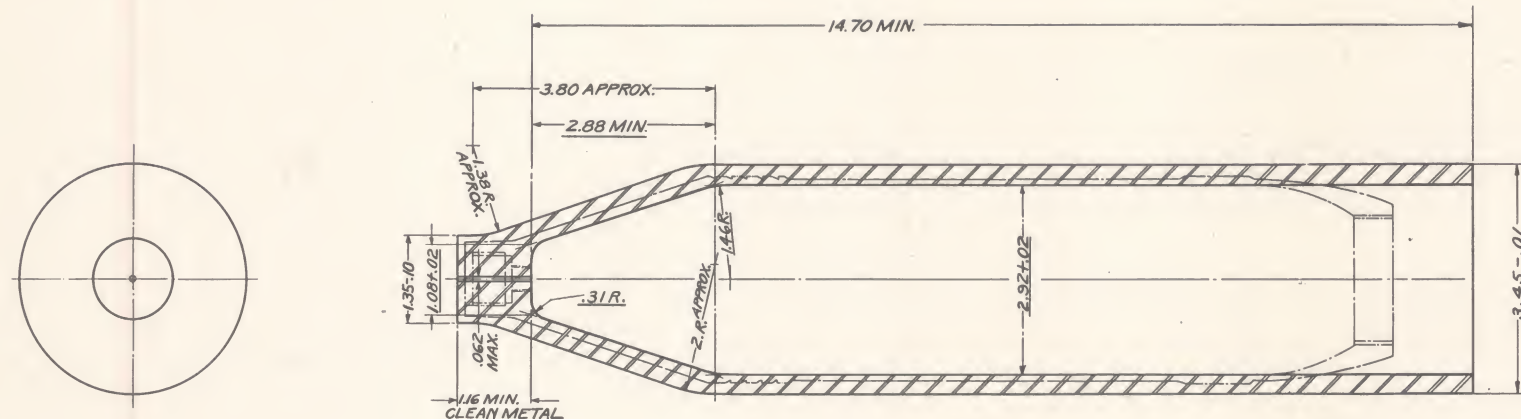
- UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED.
- DOT AND DASH LINES REPRESENT FINISHED SHELL.
- MAXIMUM PERMITTED ECCENTRICITY BETWEEN SHELL CAVITY AND OUTSIDE SURFACE AT ANY POINT, .04 (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING ON THE DIAL IS TWICE THE ECCENTRICITY).
- IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.



| | | | | |
|---|--|---------------------------|----------|-------------|
| FORGING FOR SHELL, H. E. | | | | |
| 60MM, M49A2 | | | | |
| AND PRACTICE 60MM, M50A2 | | | | |
| JULY 17, 1940 | | | | |
| REVISIONS | | CLASS | DIVISION | DRAWING |
| 1 11-17-41 | | 75 | 20 | 85 |
| 2 8-15-45 | | | | |
| DRG. PERTAINS TO | | CHECKER | TRACER | L.D. OFFMAN |
| | | RE. | RE. | |
| SUBMITTED: | | MAJOR, ORD. DEPT. U.S.A. | | |
| EXAMINED: | | LT. CO. ORD. DEPT. U.S.A. | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | J. G. L. JORD | | |
| D | | ORDNANCE DEPT. U.S.A. | | |

| LINE NO. | LIST OF SPECIFICATIONS | SPEC. NUMBER | REQUIRED BY |
|----------|---|--------------|-------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS, GENERAL SPEC. FOR | 50-0-1 | 75-20-86 |
| 2 | | | |
| 3 | SHELL, STEEL, FOR SMOOTH-BORE MORTAR, MFR. FROM FORGINGS | 50-37-1 | 75-20-86 |
| 4 | | | |
| 5 | STRUCTURAL STEEL TUBES, WELDED & SEAMLESS, CARBON & ALLOY | 57-180 | 75-20-86 |
| 6 | | | |
| 7 | METALS, GENERAL SPECIFICATION FOR INSPECTION OF | QQ-M-151 | 50-37-1 |
| 8 | | | |
| 9 | | | |
| 10 | | | |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED, A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS, AND NOT LISTED HEREON, SHALL NOT APPLY.



FORGING SHELL 75-20-86A
SEAMLESS STEEL TUBING, WDX-1335

MAX. WEIGHT OF FORGING = 11.26 LBS.

NOTES:-
EXTERIOR AND INTERIOR CONTOURS AT BASE END MAY VARY FROM THOSE SHOWN TO FACILITATE FORGING PROVIDING SUFFICIENT METAL IS ALLOWED FOR MACHINING AND THE FORGING WEIGHT IS WITHIN THE LIMITS SPECIFIED.
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED.
DOT AND DASH LINES REPRESENT FINISHED PROJECTILE.
MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .07 INCH (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY).

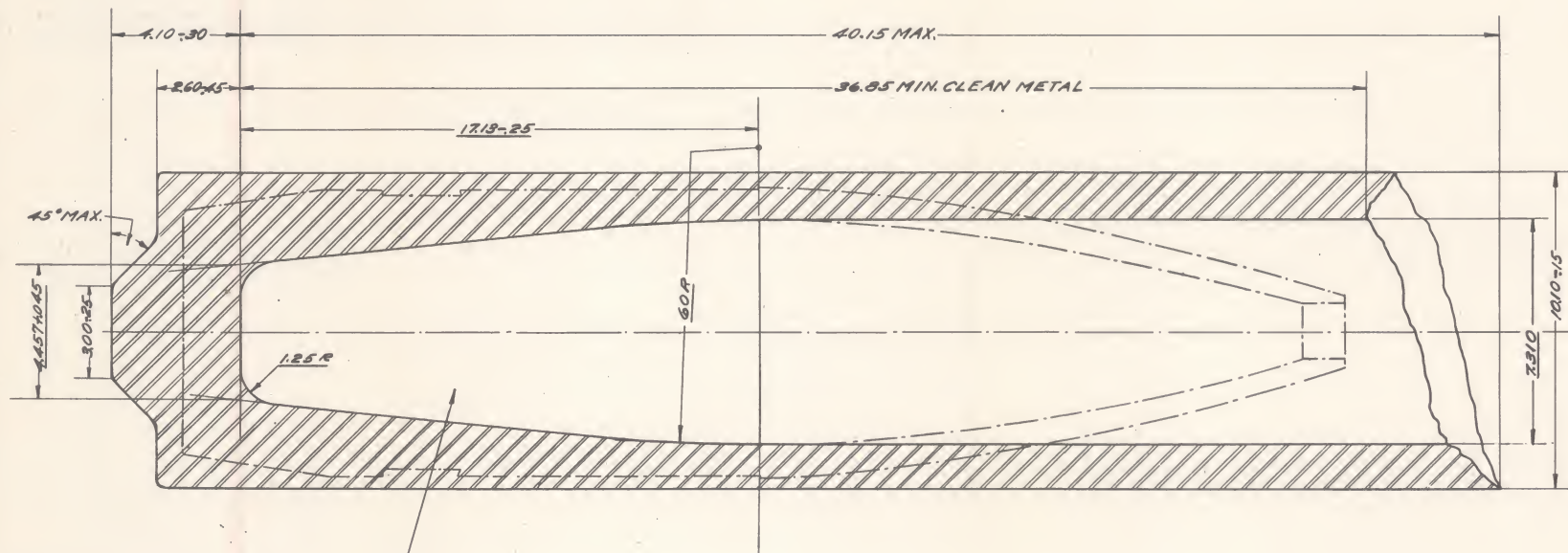
PHYSICAL PROPERTIES FOR CLASS II FORGINGS
YIELD POINT - NOT LESS THAN 60,000 LBS. PER SQ. IN.
ELONGATION IN 2 INCHES - NOT LESS THAN 15 %
REDUCTION IN AREA - NOT LESS THAN 30 %

NOTICE: THIS DRAWING SHALL NOT BE USED FOR PRODUCTION OF THE SHELL OR FOR ANY OTHER PURPOSE WITHOUT THE APPROVAL OF THE UNITED STATES GOVERNMENT PROCUREMENT.

FOR SHELL, M56, SEE DR. 75-2-283
FOR SHELL, M57, SEE DR. 75-2-284

SCALE: 1/2

| | | | | |
|---|-------|----------|---------|------|
| FORGING FOR SHELL H.E. AND CHEMICAL 81 MM., M56 AND M57 | | | | |
| FEBRUARY 1, 1941 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 20 | 86 | |
| 1 8-15-45 | | | | |
| DRG. PERTAINS TO | | | | |
| SUBMITTED: | | | | |
| EXAMINED: | | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | | | | |
| ORDNANCE DEPT., U. S. A. | | | | |



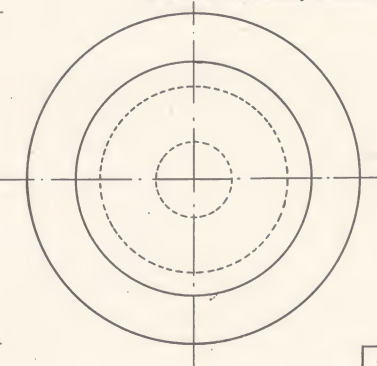
A TOLERANCE OF $\pm .045$ IS PERMITTED ON THE DIAMETER AT ANY PORTION OF THE INTERIOR CAVITY

FORGING SHELL-75-20-89A
STEEL FORGING CLASS I

NOTES:-
UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE .093 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR, THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY) IF MANUFACTURER OF THE SHELL PURCHASES OR MANUFACTURES THE FORGINGS, THE DIMENSIONS OF FORGINGS MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

| LINE NO | LIST OF SPECIFICATIONS. | SPEC. NUMBER | REQUIRED BY |
|---------|--|--------------|--------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS AMM. GENERAL SPEC. FOR | 57-0-1 | DRG 75-20-89 |
| 2 | | | |
| 3 | STEEL, FORGING; FOR SHELL STOCK | 57-104-1 | DRG 75-20-89 |
| 4 | | | |
| 5 | FORGINGS FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 | DRG 75-20-89 |
| 6 | METALS; GENERAL SPECIFICATION FOR INSPECTION OF | 99-14-151 | 57-104-2 |
| 7 | | | |
| 8 | | | |
| 9 | | | |

* THE SPECIFICATION NUMBER SHOWN ARE BASIC NUMBERS ONLY, WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.



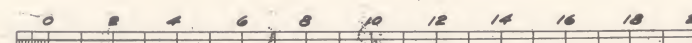
| LINE NO | PART | POUNDS. |
|---------|----------|----------|
| 1 | FORGING. | 550 MAX. |
| 2 | | |
| 3 | | |

FORGING FOR SHELL, H.E.,
240MM, M114

| | | | | |
|---|-----------------------|----------|---------|------|
| APRIL 25, 1941 | CLASS | DIVISION | DRAWING | FILE |
| REVISIONS | 75 | 20 | 89 | |
| 1 5-26-42 | | | | |
| 2 8-15-45 | | | | |
| DRG. PERTAINS TO | DRG. NO. | TRACER | FILE | FILE |
| | | | | |
| SUBMITTED: | Milesius, George | | | |
| EXAMINED: | Milesius, George | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: | Milesius, George | | | |
| | ORDNANCE DEPT. U.S.A. | | | |

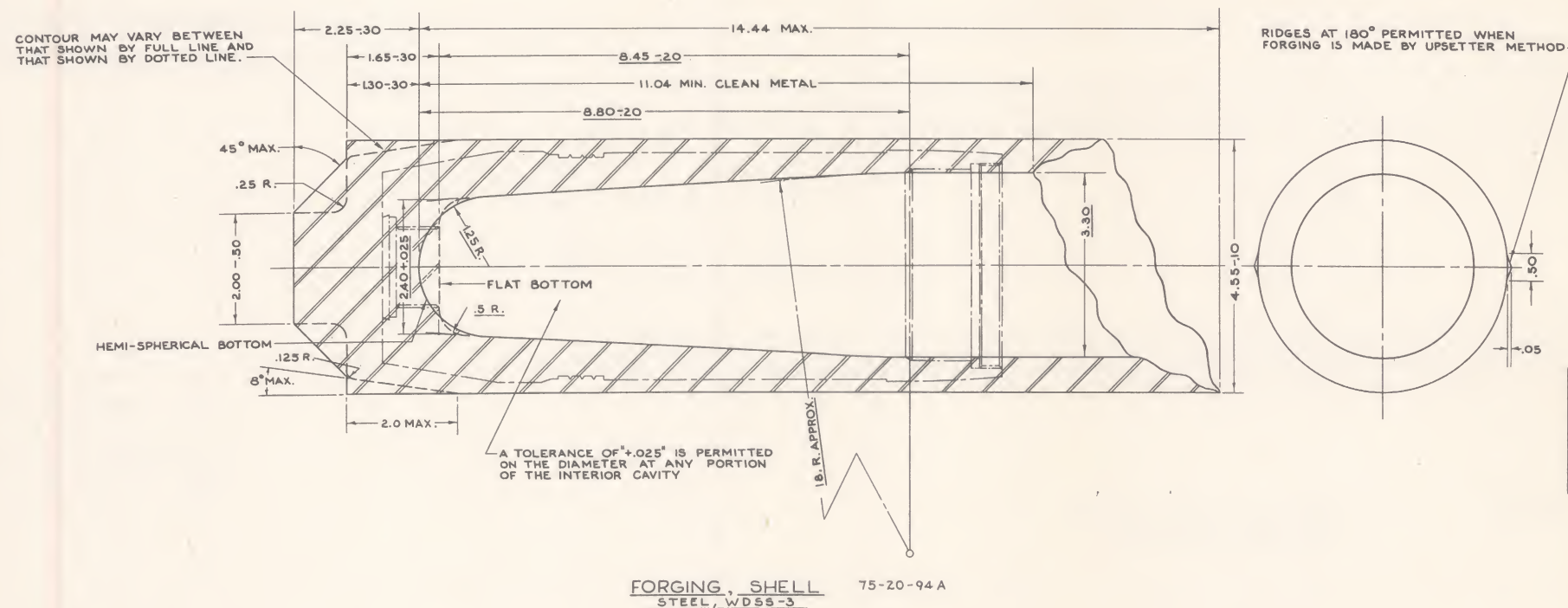
NOTICE THIS DRAWING SHALL NOT BE USED NOR REPRODUCED EITHER WHOLLY OR IN PART EXCEPT WHEN AUTHORIZED IN CONNECTION WITH UNITED STATES GOVERNMENT PROCUREMENT.

FOR SHELL, SEE DRG. 75-4-92



| LINE NO. | LIST OF SPECIFICATIONS | SPECIFICATION NUMBER * | REQUIRED BY |
|----------|---|------------------------|---------------|
| 1 | AMMUNITION, EXCEPT SMALL ARMS, AMM. GENERAL SPEC. | 50-0-1 | DRG. 75-20-94 |
| 2 | | | |
| 3 | FORGINGS, FOR COMMON STEEL SHELL AND SHRAPNEL | 57-104-2 | DRG. 75-20-94 |
| 4 | STEEL, FORGING, FOR SHELL STOCK | 57-104-1 | DRG. 75-20-94 |
| 5 | | | |
| 6 | METAL, GENERAL SPECIFICATIONS FOR INSPECTION OF | QQ-M-151 | 57-104-2 |

* THE SPECIFICATION NUMBERS SHOWN ARE BASIC NUMBERS ONLY. WHEN A SPECIFICATION IS REVISED A LETTER IS AFFIXED TO ITS BASIC NUMBER. SPECIFICATIONS REFERRED TO IN THESE SPECIFICATIONS AND NOT LISTED HEREON, SHALL NOT APPLY.

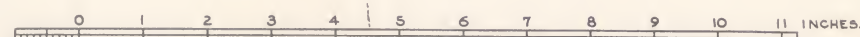


FORGING, SHELL 75-20-94 A
STEEL, WDS-3

| TABLE OF PHYSICAL PROPERTIES FOR TEST SPECIMEN (SEE SPEC. 57-104-2) AND FINISHED MACHINED SHELL | |
|---|-----------------------------------|
| YIELD POINT | NOT LESS THAN 65,000 LBS. SQ. IN. |
| ELONGATION IN 2 IN. | NOT LESS THAN 15 % |
| REDUCTION OF AREA | NOT LESS THAN 30 % |

NOTES: UNDERLINED DIMENSIONS ARE FINISHED SIZES AND WILL NOT BE SUBSEQUENTLY MACHINED. DOT AND DASH LINES REPRESENT FINISHED PROJECTILE. MAXIMUM PERMITTED ECCENTRICITY BETWEEN CAVITY AND THE EXTERIOR CYLINDRICAL SURFACE, .0625 INCH. (WHEN MEASURING ECCENTRICITY BY MEANS OF A DIAL INDICATOR THE TOTAL READING OF THE DIAL IS TWICE THE ECCENTRICITY) IF MANUFACTURER OF FORGING IS ALSO MANUFACTURER OF THE SHELL; DIMENSIONS OF FORGING MAY BE VARIED TO GIVE ALLOWANCES FOR MACHINING AS REQUIRED BY HIM.

FOR SHELL DRG. SEE 75-4-106



| LINE NO. | PART | POUNDS |
|----------|---------------|------------|
| 1 | | |
| 2 | SHELL FORGING | 43.96 MAX. |
| 3 | | |

NOTICE: THIS DRAWING SHALL NOT BE USED AS A BASIS FOR THE DESIGN OF ANY OTHER DRAWING OR FOR THE CONSTRUCTION OF ANY OTHER DRAWING.

| | | | |
|--|-------------|--------------|--------------|
| FORGING FOR SHELL, H.E., A.T., 105 MM., M67 | | | |
| MAY 4, 1942 | CLASS | DIVISION | DRAWING FILE |
| REVISIONS | 75 | 20 | 94 |
| SYMBOL | | | |
| OFTSMAN | TRACER | LOG. OFTSMAN | |
| G.T. FULTON | G.T. FULTON | G.T. FULTON | |
| CHECKER | CHECKER | CHEF OFTSMAN | |
| SUBMITTED BY: <i>[Signature]</i> | | | |
| DRG. PERTAINS TO: <i>[Signature]</i> | | | |
| EXAMINED BY: <i>[Signature]</i> | | | |
| APPROVED BY ORDER OF THE CHIEF OF ORDNANCE: <i>[Signature]</i> | | | |
| COL. ORD. DEPT., U.S.A. | | | |
| ORDNANCE OFFICE, WAR DEPT. | | | |